



**A STUDY OF SCHOOL ACHIEVEMENT IN RELATION  
TO INTELLIGENCE, N-ACHIEVEMENT AND SOCIO  
ECONOMIC STATUS AMONG THE GUJJAR AND  
BAKERWAL TRIBES IN THE STATE OF JAMMU AND  
KASHMIR**

**ABSTRACT**

**THESIS**

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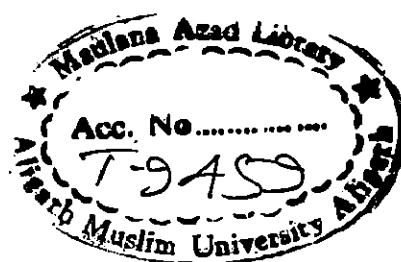
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## ABSTRACT

The present study is an attempt to study the influence of intelligence need-achievement and socio-economic status on the school achievement of Gujjar and Bakerwal tribal students of Jammu and Kashmir State. The school achievement is the general term mentioned to designate the performance outcome in intellectual domain taught at school, college, and university, demonstrating the level of learning of a person, a group, or a whole nation. Quality of academic performance has become a key factor for personal progress. School achievement is important because in today's society, academic accomplishments as well as failures determine an individual's future academic career and job opportunities (Kadison and DiGeronimo, 2004; Rana and Mahmood, 2010). Parents desire that their children acquire the best and should touch the highest possible level of education. This desire for a high level of achievement casts a great deal of pressure on students, teachers and schools, and in general the whole educational system. In fact, it appears as if the whole system of education revolves round the academic achievement of students, though various other outcomes are also expected from the system. So, a great deal of time and efforts of the school(s) is utilized in leading the students to acquire better scholastic endeavour.

The researchers in the field of education agree that despite sincere efforts the school achievement fluctuates across the gender, geographical regions, socio-cultural milieu, race, region, health, economies, politics, school access etc., (Kutnick, 2000; Dutta, 2012; Kulkurin and Sonal, 2012; Ahmed, 2013) and even within the twins of same genetic origin (Hay, 1999; Cohen, et al., 2002; Chertkova, et al., 2014). The variation in academic performance is not only the result of school related factors but also influenced by various cognitive and non-cognitive factors of the learners. There are numerous intertwining and complex factors that directly or indirectly influence the school achievement of learners. Among them social behavior and learning strategy, (Pintrich and Degroth, 1990) academic involvement, parental styles and academic motivation, (Gronlick, Deci and Ryan, 1991) academic self-concept, (Marsh, and Martin, 2011) and global self-esteem (Wondimu and Bruinsma, 2006) can be mentioned. Conger and Peterson, (1984) have mentioned general intelligence, study habit, socio-economic status, family influences, home environment, parental

aspirations and rewards, personality characteristics, sex-differences, quality of teaching, school process and school environment, education for docility and peer influence as the potential factors which influences the school achievement of the pupils.

In recent years, many researchers have studied about various factors affecting academic achievement and their correlation with certain cognitive, non-cognitive and other demographic variables (Tufail, 2014; Ahmad, 2013; Basu, 2013; Manjunath and Annapurana, 2012). In most of the studies school achievement was found to be highly influenced by intelligence (Allik & Realo, 1997; McGrew & Flanagan, 1997; Neisser, et al., 1996; Al-Saleh, et al., 2001) socio economic status (Davis Kean, 2005; Ali, et al., 2006; Bohon, et al., 2006; Laidra, Pullmann & Allik, 2007; Mullah, et al., 2007) and also by n-Achievement (Ellekkakumar and Elankathirselvan, 2001; Lau and Chan, 2001; Joseph, 2004; Alam, 2006; Tella, 2007). In most of these studies intelligence, socio-economic status (SES) and need-achievement (n-Achievement) were found to have a better influence on the school achievement of adolescents. Therefore, in the present study the investigator has considered these three variables (intelligence, socio-economic status and need-achievement) as the predictor variable and school achievement as the criterion variable.

A variety of investigations indicate that the correlation between intelligence and school achievement as measured by standardised test, ranges from 0.50 to 0.70 or 0.75 (Frey and Detterman, 2004). There is little difference between boys and girls in the magnitude of the correlation between intelligence and school achievement (McCandless, 1970) however, Price and Magoon, (1971) observed that this correlations are likely to be higher for girls than for boys. Moreover, after controlling the effects of intelligence, students of varying levels of academic achievement differ significantly (Gawronski and Mathis, 1965). A plethora of studies attributed a positive and significant effect of socio-economic status on the school achievement of students (Deutsch, 1960; Passow, 1963; Gordon and Wilkerson, 1966; Little, 1967). Youths from higher socio-economic levels tend to view education as having intrinsic values quite apart from its function of increasing vocational opportunities and economic rewards (Bachman, Green and Wirtanen, 1972; Boyle, 1966; Krauss, 1964).

There is a mixed opinion about the contribution of n-Achievement as a predictor of school achievement. In some cases n-Achievement was found as the stronger and significant predictor of school achievement (Mishra, 1997; Ellekkakumar and Elankathirselvan, 2001; Lau and Chan, 2001; Joseph, 2004; Alam, 2006; Tella, 2007; Ahmad and Nigam, 2008; Steinmayr and Spinth, 2009; Bahago, 2011). While as in some studies n-Achievement emerged as a very weak predictor of school achievement (Petrick and Kim, 1998; Sidhu and Parminder, 2005; Bansal, et al., 2006; Halawah, 2006; Navarrete, et al., 2007; Acharya and Shobhna, 2009; Wang and Xing, 2009; Wilkins, 2009; Ghazi, et al., 2010; Muola, 2010). Halawah, (2006) revealed that relationship between motivation and academic achievement was very small (0.07). Adsul and Kumble, (2008) found that caste, gender and economic background of family do not jointly effect on achievement motivation of college students. Manjuvani and Anuradha, (2011) found that children of single parent families differed significantly in achievement motivation from the children of two parent families. It was also concluded that parental expectations and guidance developed the need for high achievement.

**Statement of the problem:**

**“A Study of School Achievement in Relation to Intelligence, N-Achievement and Socio-Economic Status among the Gujjar and Bakerwal Tribes in the State of Jammu and Kashmir”**

**Definitions of variables:**

**School achievement:**

Crow and crow (1969) defines achievement as the extent to which a learner is profiting from instructions in a given area of learning” while as Trow, (1960) defines it as the attainment, ability or degree of competence in school tasks usually as measured by standardized tests and expressed in school tasks usually as measured by standardized tests and expressed in age or grade units based on norms derived from a wide sampling of pupils’ performance

**Operational definition:** school achievement in the present study was taken as the percentage of total marks obtained by the selected students in their class 8<sup>th</sup> of session 2012-2013.

**Intelligence:**

Howard Gardner (2011) in his book “Frames of Mind: The Theory of Multiple Intelligence” stated eight varieties of intelligences viz., Linguistic, Logical-mathematical, Spatial, Musical, Bodily-kinaesthetic, Interpersonal, Intrapersonal and Naturalistic Intelligences. He further stated that all individuals do not possess them in equal proportion. The particular situation or the context decides the prominence of one type of intelligence over the others.

**Operational definition:** For the present study the intelligence of the respondents is taken as the measures of total raw scores obtained by the respondents on the Culture fair (SCALE 2, FORM A) test of intelligence, Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India)

**Need-Achievement / n-Achievement:**

Atkinson and Feather (1966) viewed n-Achievement as the strength or the tendency to achieve that is expressed in the performance of a particular task by the personality character (achievement motive) and by the instantaneous environmental influences.

**Operational definition:** For the present study n-Achievement is the total score obtained by the respondents on standard Achievement Motivation scale (n-Ach) developed by Prof. Pratibha Deo and Dr. Asha Mohan (2011), Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India).

**Socio-Economic Status (SES):**

Valencia and Suzuki (2001) emphasized on education of the parents, occupation of the parents and the income of the family as the three topmost categories to be used for measuring socio-economic status.

**Operational definitions:** In view of the various definitions and the social milieu the socio-economic status for the present study was taken as the sum total of the raw scores obtained by respondents on the socio-economic status scale developed by Divya Singh and Deepa Vinay (2013) (SESS [R]—DSDV), Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India)

**Objectives of the study:**

1. To find out the predictability strength of selected predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) of the total tribal sample.
2. To predict the predictability strength of the selected predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) for total male sample.
3. To predict the school achievement of total tribal female sample from the selected predictor variables (socio-economic status, intelligence and n-Achievement).
4. To predict the predictability strength of the predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) for the total sample of Jammu division (including male and female).
5. To predict the influence of socio-economic status, intelligence and n-Achievement on the criterion variable (school achievement) for the total sample of Kashmir division (including male and female).
6. To study the contributory role of various predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) among the total Gujjar sample (including Gujjars of Jammu division and Kashmir division).
7. To predict the predictability strength of the predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) among the total Bakerwal sample (including Bakerwals of Jammu division and Kashmir division).
8. To study the effect (main and interactional) of certain demographic variables (Gender, Clan and Division) on school achievement of the Gujjar and Bakerwal students.
9. To investigate the effect (main and interactional) of Gender, Clan and Division on intelligence of the Gujjar and Bakerwal students.
10. To investigate the effect (main and interactional) of Gender, Clan and Division on need-achievement of the Gujjar and Bakerwal students.

11. To investigate the effect (main and interactional) of Gender, Clan and Division on Socio-economic status of the Gujjar and Bakerwal students.

**Hypotheses:**

1. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample.
2. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample
3. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample.
4. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Jammu division (including male and female).
5. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Kashmir division (including male and female).
6. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujjar sample (including Gujjars of Jammu division and Kashmir division).
7. None of the three predictor variables Viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample (including Bakerwals of Jammu division and Kashmir division).
8. There will be no significant effect (main and interactional) of gender, clan and division on school achievement of Gujjar and Bakerwal students.
9. There will be no significant effect (main and interactional) of gender, clan and division on intelligence of Gujjar and Bakerwal students.



10. There will be no significant effect (main and interactional) of gender, clan and division on need- achievement of Gujjar and Bakerwal students.
11. There will be no significant effect (main and interactional) of gender, clan and division on Socio-economic status of Gujjar and Bakerwal students.

## **Chapter II**

This chapter covers the background literature that was drawn upon for the better understanding of the scenario. The surplus of literature that was compiled by the investigator for this purpose is arranged under following broad sections.

Section 2.1: Studies related to Gujjar and Bakerwal tribe.

Section 2.2: Studies related to the general tribal population.

Section 2.3: Studies related to school achievement and intelligence.

Section 2.4: Studies related to school achievement and socio-economic status.

Section 2.5: Studies related to school achievement and n-Achievement.

Section 2.6: Critical appraisal of the literature.

Section 2.7: Research gaps.

Section 2.8: Rationale for the present study.

## **Chapter III:**

### **PROCEDURE OF SAMPLE SELECTION:**

The total sample of the present study was obtained by multi-stage stratified random sampling technique. The data collection for the present study was done in two phases. In the first phase, data was collected from the Jammu region and in the second phase data was collected from the Kashmir valley. The various steps followed to obtain a representative sample were discussed as follows.

### **Description of the Sample:**

Sample for the present study comprises of the male and female ST (Gujjar and Bakerwal) students of class IX (session 2012-2013) within the age group of 14-16

years. The sample was collected from the government schools affiliated to the Jammu and Kashmir state board of school education (JKBOSE).

### **Sample Selection**

The required sample was obtained by adopting the following procedures.

#### **Selection of Division:**

The state of Jammu and Kashmir has three distinct geographical regions viz., Jammu division, Kashmir division and the Ladakh division. The Gujjar and Bakerwal tribal population is widely distributed in the Jammu region followed by Kashmir region of the state. No Gujjar and Bakerwal tribal population were found in the Ladakh region therefore, through conventional sampling technique these two divisions were selected (Jammu division and Kashmir division).

#### **Selection of the Districts:**

The selection of the districts was done on the basis of the information obtained from Census—2001. Utilizing the data obtained from the office of the registrar general and census commissioner, India; (Table 3.1) the most populated tribal (Gujjar & Bakerwal) districts of the Jammu and Kashmir state were sorted out and leading five districts were selected which included the districts of Poonch, Rajouri, Anantnag, Baramulla and Kuphwar (Figure 3.1). The Baramulla district was replaced by its penultimate Kuphwar district due to its vastness in area, security reasons and paucity of time. It was very difficult for the investigator to trace out the Gujjar and Bakerwals in the district of Baramulla.

#### **Selection of the institutions:**

In order to obtain a representative sample the investigator contacted the chief educational officer (CEO) of the concerned districts that were conveniently selected on the basis of significant tribal population. The category wise (ST, SC, OBC etc.) enrolment list of students was obtained from the concerned offices. After proper scrutinizing of the obtained information only those schools were selected which held a substantial (not less than 25) population of Gujjar and Bakerwal student.

**Selection of the sample:**

The selective samples of the male and female, Gujar and Bakerwal students were obtained by adopting the Stratified random sampling technique. The investigator first identified the Gujar and Bakerwal students within the selected school and then the sample of male and female Gujar and Bakerwal students was randomly selected.

**Tools used for data collection.**

In order to obtain valid and reliable scores of independent variables the investigator makes use of the standardized tools purchased from the national psychological corporation, Agra. The brief introductions of these tools are given in the following subsections.

**Intelligence test:**

Culture fair (scale 2, form A) test of intelligence is designed in a manner to reduce, as much as possible, the influence of verbal fluency, cultural climate and educational level. The test is non-verbal in nature and requires only that examinees be able to perceive relationships in shapes and figures. The scale contains four subsets, involving different perceptual tasks, so that the composite intelligence measure avoids spurious reliance on a single skill.

**Need achievement (n-Achievement) scale:**

For studying the achievement motivation of the Gujar and Bakerwal students, the investigator employed Deo-Mohan Achievement Motivation (n-Achievement) scale constructed by Pratibha Deo and Asha Mohan and published by national psychological corporation, Agra. It is a self-rating type and may be administered to individuals and to the group with five points to rate viz., always, frequently, sometimes, rarely, and never. It has no time limit. The scale has designed for use with the age group ranging from 13 to 25 and above. The scale was in the statement form covering the areas of academic factors, factors of the general field of interest, competition in curricular and co-curricular activities and social interest. Total number of items was 50.

**Socio-economic status scale:**

The socio-economic status scale constructed by Divya Singh and Deepa Vinay was used to access the socio-economic status of Gujar and Bakerwal students. This scale

school achievement for the total sample of Jammu division with a predictable strength of 32.1% followed by intelligence 11.5%, and 2.2% of variance contributed by the n-Achievement variable.

9. For the total male sample of Jammu division these three variables contribute a total of 51.5% of the variance for the criterion variable, with 40.6% shared by socio-economic status, followed by intelligence 8.2%, and n-Achievement with a predictability strength of 2.8%.
10. For the female tribal sample of the Jammu division the predictability strength of the predictor variables was found to be 37.7%, with intelligence (20.6%) as the most powerful predictor followed by socio-economic status (15.2%) and n-Achievement contributing 1.9% of variance in the criterion variable i.e., school achievement.

**For total sample of Kashmir division:**

11. The total predictability strength of socio-economic status, intelligence and n-Achievement among the total tribal sample of Kashmir division was found to be 32.7%. Out of this 32.7% intelligence emerged as the most powerful predictor with a contribution of 18.9%, followed by socio-economic status with a contribution of 12.8%, and n-Achievement contributing a share of 1% variance for the criterion variable.
12. In case of total tribal male sample of Kashmir division, intelligence and socio-economic status was found to be the most significant predictor of school achievement while as n-Achievement is aborted from the regression model. The intelligence plays a significant role with a contribution of 23.7%, followed by socio-economic status with a significant share of 16.8% towards the school achievement.
13. For the total female tribal sample of the Kashmir division intelligence and the socio-economic status emerged as the significant predictor of the school achievement with a share of 13.3% shared by intelligence, and 8.2% of variance shared by socio-economic status.

**For Gujjar and Bakerwal sample of Jammu division:**

14. In the total Gujjar sample of Jammu division the total variance shared by these three predictor variables was found to be 43.0%, with socio-economic status contributing a share of 31.2%, followed by intelligence 9.9% and the least share shared by n-Achievement 2.0%. In the Bakerwal sample of the Jammu division the total contribution of these three variables towards school achievement is found to be 47.5%, with intelligence as a leading predictor with a contribution of 26.2%, followed by socio-economic status 18.3% and n-Achievement contributing a significant share of 3%.

**For Gujjar and Bakerwal sample of Kashmir division:**

15. The total contribution of all the three variables was found to be 31.9% for the total Gujjar sample of Kashmir division. Intelligence is found to be a significant and the most powerful predictor of school achievement with a contribution of 13.3%, followed by socio-economic status 12.9% and n-Achievement contributing 5.7% of the variance for the criterion variable. In the total Bakerwal sample of the Kashmir division the combined contribution is found to be 47.2% comprising of 35.0% of variance shared by intelligence and 12.3% shared by socio-economic status, while as the third variable n-Achievement was aborted by the regression model.

**5.3. FINDINGS BASED ON 2 x 2 x 2 INTERACTIONAL ANALYSES:**

**Interactional effect of Gender (A), Clan (B), and Division (C) on school achievement of Gujjar and Bakerwals:**

16. The main effect of the gender on the school achievement of Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the school achievement of these tribal students.
17. The main effect of the clan was found to be statistically significant, indicating that clan has a significant differential effect on the school achievement of these tribal groups. Further analysis revealed that the Gujjars (55.30) possess better mean school achievement scores than the Bakerwals (50.73).

18. The main effect of division was also found to be statistically significant, indicating that division variation has a significant differential effect on the school achievement of total tribal sample. It was found that the tribal sample of Jammu (55.85) division has better mean school achievement than Kashmir (51.03) division.
19. The interactional effect of the gender and clan variation on the school achievement was found to be statistically significant. The further analysis revealed that the male sample (56.69) of the Gujjar clan is better, followed by females (52.67) of the same clan. While as, the female (51.66) of the Bakerwal clan possesses better school achievement scores than the males (49.70) of the same clan.
20. The interactional effect of the clan and division variation on the school achievement of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (57.20) of the Jammu division has better school achievement, followed by Gujjar's (52.16) of the Kashmir division. While as, the Bakerwals (52.26) of the Jammu division stands at the third rank followed by the Bakerwals (49.08) of the same division.
21. The interactional effect of gender and division on the school achievement of the total sample was found to be statistically insignificant, indicating that there is insignificant interactional effect of division and gender on school achievement of tribal students.
22. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is no interactional effect of gender, clan and division.

**Interactional effect of Gender (A), Clan (B), and Division (C) on intelligence of Gujjar and Bakerwals:**

23. The main effect of the gender variance on the intelligence of Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the intelligence of these tribal students.

24. The main effect of clan variance was found to be statistically significant, indicating that clan has a significant differential effect on the intelligence of these tribal groups. Further analysis revealed that the Gujjars (15.0) possess better mean intelligence scores than the Bakerwals (13.42).
25. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on intelligence of the total tribal sample. It was found that the tribal sample of Jammu (14.85) division has better mean scores of intelligence than that of Kashmir (13.57) division.
26. The interactional effect of gender and clan variance on intelligence was found to be statistically significant. The further analysis revealed that the male sample (15.77) of the Gujjar clan has better intelligence, followed by females (14.24) of the same clan. While as, the male and female sample of the Bakerwal clan possess low mean scores of intelligence as compared to Gujjar sample, with a mean score of (13.76) for females and (13.07) for male sample.
27. The interactional effect of clan and division on the intelligence of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (16.35) of the Jammu division is better than rest of the three samples, followed by Gujjars of Kashmir division (13.66), Bakerwals of Kashmir division (13.492), and the Bakerwals of Jammu (13.34) division.
28. The interactional effect of gender and division on the intelligence of the total sample was also found to be statistically significant, indicating that there is a significant interactional effect of division and gender on the intelligence of tribal students. The further analysis candidly reveals that females of the Jammu (15.05) division possess the higher mean intelligence scores followed by the male sample (14.64) of the same division. While as the male (14.20) and the female (12.94) samples of the Kashmir division has lower intelligence scores.
29. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is no interactional effect of gender, clan and division on the intelligence of the total sample.

**Interactional effect of Gender (A), Clan (B), and Division (C) on the n-Achievement of Gujjar and Bakerwals:**

30. The main effect of the gender variance on the n-Achievement of the total Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the n-Achievement of these tribal students.
31. The main effect of clan variance was found to be statistically significant, indicating that clan variation has a significant differential effect on the n-Achievement of these tribal groups. Further analysis revealed that the Bakerwal (130.97) sample possesses better mean n-Achievement scores than the Gujjar (123.02) sample.
32. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on n-Achievement of the total tribal sample. It was found that the tribal sample of Kashmir (129.39) division has better mean scores of n-Achievement than that of Jammu (98.06) division.
33. The interactional effect of gender and clan variance on n-Achievement was found to be statistically significant. The further analysis revealed that the female sample (132.21) of the Bakerwal clan has higher n-Achievement scores, followed by the males (129.73) of the same clan. While as, the male (127.18) sample of the Gujjar tribe was found to be superior to the females (118.87).
34. The interactional effect of clan and division on the n-Achievement of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (131.22) of the Jammu division possesses higher n-Achievement scores, followed by Bakerwal (131.80) of the Kashmir division. While as the Bakerwals (130) of the Jammu division stands at the third rank followed by the Gujjars (114.82) of the Kashmir division.
35. The interactional effect of gender and division variance on the n-Achievement of the total sample was also found to be statistically insignificant, indicating that there is no significant interactional effect of division and gender on the n-Achievement of tribal students.
36. The three way interaction, i.e., gender x clan x division was found to be statistically significant, indicating that there is interactional effect of gender,



clan and division on the n-Achievement of the total sample. To examine the nature of this significant interactional effect among gender, clan and division ( $A \times B \times C$ ), and for the sake of clarity the investigator decomposed this 3-way interaction into two separate two way interactions split by one of the three independent variables' variation. In our case we consider clan  $\times$  division interaction separately for each Gender (i.e., male and female).

In division  $\times$  clan interaction for male gender we observe an ordinal interaction in which the two lines are neither parallel nor they intersect, on the other hand, in case of gender  $\times$  clan interaction for female gender we observe a disordinal interaction as the lines candidly intersect each other.

**Interactional effect of Gender (A), Clan (B), and Division (C) on socio-economic status of Gujjar and Bakerwals:**

37. The main effect of the gender variance on socio-economic status of the total Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the socio-economic status of these tribal students.
38. The main effect of clan variance was found to be statistically significant, indicating that clan variation has a significant differential effect on the socio-economic status of these tribal groups. Further analysis revealed that the Gujjar (57.10) sample possesses better mean socio-economic status scores than the Bakerwal (49.25) sample.
39. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on socio-economic status of the total tribal sample. It was found that the tribal sample of Jammu (56.64) division has better mean scores of socio-economic status than that of Kashmir (49.87) division.
40. The interactional effect of gender and clan variance on socio-economic status was found to be statistically significant. The further analysis revealed that the male sample (61.38) of the Gujjar clan belongs to higher socio-economic status, followed by the females (Gujjar = 52.83, Bakerwal = 52.22) of both the clans.

While as, the male (46.44) sample of the Bakerwal clan belongs to lower socio-economic status.

41. The interactional effect of clan and division on the socio-economic status of the total sample was found to be statistically significant, indicating that there is a significant interactional effect of clan and division on socio-economic status. The further analysis revealed that the Gujjar sample (Jammu = 64.15, Kashmir = 50.06) belongs to higher socio-economic status, while as the Bakerwals (Kashmir = 49.68, Jammu = 49.04) belongs to a lower socio-economic status group.
42. The interactional effect of gender and division variance on the socio-economic status of the total sample was also found to be statistically insignificant, indicating that there is no significant interactional effect of division and gender on the socio-economic status of tribal students.
43. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is interactional effect of gender, clan and division on the socio-economic status of the total sample.

#### **5.4. EDUCATIONAL IMPLICATIONS AND SUGGESTIONS:**

The educational implications and suggestions of this study will be helpful for educational planners, thinkers, demographers, teachers, psychologists, administrators, policy makers, teacher educators and parents as stakeholders in the sustenance of the tribal education system. The study will also be helpful to counsellors and other persons who are actively involved in research. On the basis of the obtained results and the field experiences of the investigator following educational implication and suggestions for the enhancement of school achievement of these tribal groups are as under:

1. Socio-economic status emerged as the most powerful and statistically significant predictor of school achievement. Therefore, on the basis of the findings, it can be confidently stated that new schemes, programmes and policies should be introduced for the socio-economic upliftment of these tribal phratries.

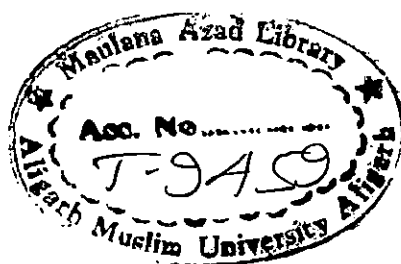
2. Majority of the sample belong to lower socio-economic status comparison to Bakerwals the Gujjars occupy higher strata. Therefore, provisions should be made to set reservation for migratory tribal clans.
3. The Gujjar and Bakerwal hostels are boon for the educational growth of these tribes. It was observed that products of these hostels have achieved higher positions in different walks of life. Therefore, there is a clarion call for an increase and up gradation of these hostels throughout the state.
4. During data collection it was observed that less number of Bakerwal students were found in these hostels. As they are migratory, educationally and economically backward, therefore, certain seats should be reserved for them.
5. The state government has set a number of mobile/seasonal schools for these tribes that roam along with them. These schools play a very important role in providing the elementary education. It was found that these schools lag behind in basic infrastructure and modern facilities. Therefore, rejuvenation of these schools is the need of hour and their number should be increased.
6. During field visits it was noticed that traditional methods of farming were practised by these tribes and majority rely on mono-crop cultivation (zea-maize). Provisions should be made to distribute disease resistant, high yielding and good quality seeds. Agricultural universities/institutions should take up the issues of these communities on priority basis. Provisions should be taken to disseminate information from lab to land. In this regard farmer's training cum skill development programmes, awareness camps, on field trial demonstration(s) should be organised. This will help them to compare the divergence of productivity and motivate them to replace their low produce seeds.
- 7.. During interaction with Bakerwal tribes it was revealed by them that the annual yield of milk, egg, meat, and wool of their indigenous livestock is very low. Therefore, provisions should be made to introduce genetically improvised varieties of livestock that will aid in enhancing their economic conditions.
8. Majority of tribals in general and Bakerwals in particular were unaware of various schemes meant for them. In order to generate awareness among these

tribals, frequent radio advertisement in their own language (Gojiri) should be initiated. During visit to various tribal deras (make shiftment houses of the tribe) transistor was found within each tribal family, as they are very fond of their folk music.

9. Intelligence was found as the second most important and significant predictor of school achievement. Therefore, ways and means should be adopted by teachers to nourish and nurture the cognitive capacities of these students. Various extra-curricular activities should be inculcated to enhance convergent/divergent thinking among these students. Researchers rendered emotional stress as one of the principle causes for cognitive decline and low achievement, so, teachers must render a congenial atmosphere for these tribal students.
10. The findings also reveal that the majority of the sample was average achievers. Researchers acclaimed that, for optimal development, the child must grow up in a happier family environment; a quality family life assures better performance of the children. Therefore, a cordial relationship with parents of under achiever students' and timely interactions with them may help students to cope up with many difficulties. Parental awareness programmes, about the significance of family interaction pattern in a child's achievement must be provided through various gatherings like open house theatres, etc. Teachers should make use of positive reinforcement for developing proper achievement behaviour. Promote achievement motivation by combining strong hope for success with low fear of failure. To acquire this proper guidance and counselling facilities should be provided to solve the problems and render help for the needy students.
11. Studies incorporated in the review of literature revealed that the high achievers have reported better study habits than the low achievers. Skill of having a sound study habit is such a promising quality. At some point of time it acts as a shield against other unfortunate psychological variables and thus protects the student from being under achiever. Hence, there is a need to inculcate a systematic and proper study habit in these tribal children. Thus, skill development programmes may be organized for the students, where factors like budgeting time, note taking style, examination writing skills, memory

enhancement techniques, need for maintaining a good physical condition and health, techniques to improve reading ability and the need for learning motivation enhancement may be thoroughly discussed.

12. A number of socio-demographic factors that were found to have some association with academic achievement. It was found that gender, clan and division have a significant association with the academic achievement. Hence, the above factors should be taken into consideration while planning the interventional strategies for the Gujjar and Bakerwal students.
13. During interaction with the tribal's the investigator noticed that some of the tribals think educating their wards in the boarding schools will separate them from their occupation (livestock grazing), culture, tradition, and language. In order to overcome this mental setup ICT based education will provide an opportunity to educate them within their social milieu. To achieve this, government should distribute a preloaded laptop (with e-lectures, e-books or e-learning materials, etc.) with a solar charging system, to both the students of these tribal phratries. It will be economical and fruitful for the migratory people. It will be beneficial for the girl students also. This kind of teaching learning material will help them to be within their social milieu and they can get educated.





**A STUDY OF SCHOOL ACHIEVEMENT IN RELATION  
TO INTELLIGENCE, N-ACHIEVEMENT AND SOCIO  
ECONOMIC STATUS AMONG THE GUJJAR AND  
BAKERWAL TRIBES IN THE STATE OF JAMMU AND  
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**THESIS**  
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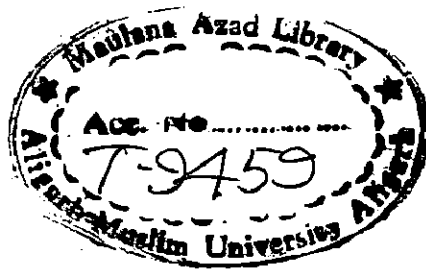
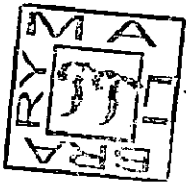
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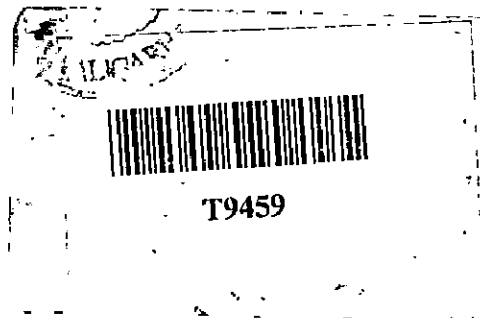
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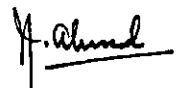


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This is to certify that Mr. Mohd. Zia-Ul-Haq Rafiqi has carried out his Ph.D. research work entitled, "A Study of School Achievement in Relation to Intelligence, N-Achievement, and Socio-Economic Status among the Gujjar and Bakerwal Tribes in the State of Jammu and Kashmir" under my supervision and guidance. To the best of my knowledge and belief, the research work embodied in this thesis is the original work by the investigator and is suitable for submission for the award of the degree of Doctor of Philosophy (Ph.D) in Education in the Department of Education, Aligarh Muslim University.

  
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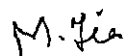
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**Mohd. Zia-Ul-Haq Rafaqi**

CERTIFICATES

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## CHAPTER-I

### INTRODUCTION

The school achievement is the general term mentioned to designate the performance outcome in intellectual domain taught at school, college, and university, demonstrating the level of learning of a person, a group, or a whole nation. Quality of academic performance has become a key factor for personal progress. School achievement is important because in today's society, academic accomplishments as well as failures determine an individual's future academic career and job opportunities (Kadison and DiGeronimo, 2004; Rana and Mahmood, 2010). Parents desire that their children acquire the best and should touch the highest possible level of education. This desire for a high level of achievement casts a great deal of pressure on students, teachers and schools, and in general the whole educational system. In fact, it appears as if the whole system of education revolves round the academic achievement of students, though various other outcomes are also expected from the system. So, a great deal of time and efforts of the school(s) is utilized in leading the students to acquire better scholastic endeavour.

The researchers in the field of education agree that despite sincere efforts, the school achievement fluctuates across the gender, geographical regions, socio-cultural milieu, race, region, health, economies, politics, school access etc., (Jules and Kutnick, 1990; Lafrance, 1991; Miller, 1991; Drayton, 1995; Swainson, 1995; Murphy and Elwood, 1996; Kutnick, 2000; Dutta, 2012; Kulkurin and Sonal, 2012; Ahmed, 2013) and even within the twins of same genetic origin (Hay, 1999; Cohen, et al., 2002; Webbink, et al., 2008; Tsou, et al., 2008; Zyrianova, 2009; Egorova, 2011; Chertkova, et al., 2013; Chertkova, et al., 2014). The variation in academic performance is not only the result of school related factors but also influenced by various cognitive and non-cognitive factors of the learners. There are numerous intertwining and complex factors that directly or indirectly influence the school achievement of learners. Among them social behavior and learning strategy, (Pintrich and Degroth, 1990) academic involvement, parental styles and academic motivation, (Gronlick, Deci and Ryan, 1991; Gronlick, and Ryan, 1992) academic self-concept, (Marsh, and Martin, 2011)



and global self-esteem (Wondimu and Bruinsma, 2006) can be mentioned. Conger and Peterson, (1984) have mentioned general intelligence, study habit, socio-economic status, family influences, home environment, parental aspirations and rewards, personality characteristics, sex-differences, quality of teaching, school process and school environment, education for docility and peer influence as the potential factors which influences the school achievement of the pupils.

In recent years, many researchers have studied about various factors affecting academic achievement and their correlation with certain cognitive, non-cognitive and other demographic variables (Tufail, 2014; Ahmad, 2013; Basu, 2013; Manjunath and Annapurana, 2012; Aguirre Perez, et al., 2008; Jeanne, Finney, and Barron, 2007; Lipscomb, 2007; Magnuson, 2007; Nofle and Robins, 2007; O'Connor and Paunonen, 2007; Rimm-Kaufman, Fan, Chiu and You, 2007; Wagerman and Funder, 2007; Caprara, Barbaranelli, Steca and Malone, 2006; Gooden, et al., 2006; Johnson, McGue and Iacona, 2006; Martin, Montgomery and Saphian, 2006; Trautwein, Ludtke, Koller and Baumert, 2006; Boykin, et al., 2005; Contessa, Ciardiello and Perlman, 2005; Finn, Gerber and Boyd Zaharias, 2005; Hong and Ho, 2005; McNelis, Johnson, Huberty and Austin, 2005). In most of the studies school achievement was found to be highly influenced by intelligence (Allik & Realo, 1997; McGrew & Flanagan, 1997; Neisser, et al., 1996; Al-Saleh, et al., 2001; Sternberg, et al., 2001; Gagne & St Pere, 2002; Williams, et al., 2002; Koke & Vernon, 2003; Fagan, Holland & Wheeler, 2007; Laidra, et al., 2007; Mayes & Calhoun, 2007a, 2007b; Rohde & Thompson, 2007; Watkins, Lei & Canivez, 2007) socio economic status (Kareem, 1991; Maqsd & Rouhani, 1991; Muthumanickam, 1992; Radha, 1992; Jersey, 1997; Mishra, 1997; Nkinyangi, 1997; Kean and Pamela, 1999; Khallad, 2000; Davis Kean, 2005; Ali, et al., 2006; Bohon, et al., 2006; Laidra, Pullmann & Allik, 2007; Mullah, et al., 2007; Randall & Bohnert, 2009; Lacour, and Tissington, 2011; Ahmad and Khan, 2012; Juma, et al., 2012; Kilpatric, 2012; Qaiser, et al., 2012; Shah, et al., 2012; Ahmer and Anwar, 2013; Chandra and Azimuddin, 2013; Yadav, 2013; Alade, et al., 2014; and Ewumi, 2014) and also by n-Achievement (Baskaran, 1991; Koteshwara, 1991; Harikrishna, 1992; Rani, 1992; Hota, 1995; Mishra, 1997; Ellekkakumar and Elankathirselvan, 2001; Lau and Chan, 2001; Joseph, 2004; Alam, 2006; Tella, 2007; Ahmad and Nigam, 2008; Steinmayr and Spinth, 2009; Bahago, 2011; Baruah and Devi, 2012; Boruah, 2012; Chandra and Rachna, 2012; Hornstra, et

al., 2012; Madhu, et al., 2012; Onete, et al., 2012; Rao, 2012; Sharma, 2012; Verma, 2012; Baruah, 2013; Begum and Nasrin, 2013; Jabeen and Khan, 2013; and Baruah, 2014). In most of these studies intelligence, socio-economic status (SES) and need-achievement (n-Ach) were found to have a better influence on the school achievement of adolescents. Therefore, in the present study the investigator has considered these three variables (intelligence, socio-economic status and need-achievement) as the predictor variable and school achievement as the criterion variable.

A variety of investigations indicate that the correlation between intelligence and school achievement as measured by standardised test, ranges from 0.50 to 0.70 or 0.75 (Conger, 1977; Jensen, 1998; Frey and Detterman, 2004). There is little difference between boys and girls in the magnitude of the correlation between intelligence and school achievement (McCandless, 1970) however, Price and Magoon, (1971) observed that this correlations are likely to be higher for girls than for boys. Moreover, after controlling the effects of intelligence, students of varying levels of academic achievement differ significantly (Gawronski and Mathis, 1965). A plethora of studies attributed a positive and significant effect of socio economic status on the school achievement of students (Deutsch, 1960; Passow, 1963; Gordon and Wilkerson, 1966; Little, 1967). Youths from higher socio-economic levels tend to view education as having intrinsic values quite apart from its function of increasing vocational opportunities and economic rewards (Bachman, Green and Wirtanen, 1972; Boyle, 1966; Krauss, 1964).

There is a mixed opinion about the contribution of n-Achievement as a predictor of school achievement. In some cases n-Achievement was found as the stronger and significant predictor of school achievement (Sinha, 1970; Chaudhari, 1975; Elias and Long, 1984; Bhattacharyya and Battacharyya, 1990; Baskaran, 1991; Koteshwara, 1991; Harikrishnan, 1992; Rani and Meena, 1992; Hota, 1995; Mishra, 1997; Ellekkakumar and Elankathirselvan, 2001; Lau and Chan, 2001; Joseph, 2004; Alam, 2006; Tella, 2007; Ahmad and Nigam, 2008; Steinmayr and Spinth, 2009; Bahago, 2011; Baruah and Devi, 2012; Boruah, 2012; Chandra and Rachna, 2012; Hornstra, et al., 2012; Madhu, et al., 2012; Onete, et al., 2012; Rao, 2012; Sharma, 2012; Verma, 2012; Baruah, 2013; Begum and Nasrin, 2013; Jabeen and Khan, 2013; and Baruah, 2014). While as in some studies n-Achievement emerged as a very weak predictor of school achievement (Petrick and Kim, 1998; Sidhu and Parminder, 2005; Bansal, et

al., 2006; Halawah, 2006; Navarrete, et al., 2007; Acharya and Shobhna, 2009; Wang and Xing, 2009; Wilkins, 2009; Ghazi, et al., 2010; Muola, 2010; Bahago, 2011; Manjuvani and Anuradha, 2011). Halawah, (2006) revealed that relationship between motivation and academic achievement was very small (0.07). Adsul and Kumble, (2008) found that caste, gender and economic background of family do not jointly effect on achievement motivation of college students. Manjuvani and Anuradha, (2011) found that children of single parent families differed significantly in achievement motivation from the children of two parent families. It was also concluded that parental expectations and guidance developed the need for high achievement.

### **1.1. Need and importance of the study:**

India has adopted a number of unique tribal development strategy imbued with Nehru's humanism, which held the ground for our tribal development programmes after independence. With the adoption of the Constitution of free India, the British policy of isolation and non-interference was replaced by a policy of integration. The Constitution of India has provided many safeguards for the welfare and development of the tribals. The relevant articles can be classified under four major heads: (a) Protective Provisions (Arts. 15, 16, 19, 46, 146, 342, etc.); (b) Developmental Provisions (Arts. 21A, 46, 275, etc.); (c) Administrative Provisions (Arts. 244 & 275) and (d) Reservation Provisions (Arts. 330, 332, 334, 335, 340, etc.). The Protective Provisions safeguard tribal people from social injustices and all forms of exploitation, while the Developmental Provisions promote with special care of educational and economic interests of the weaker sections like the Scheduled Tribes and Scheduled Castes. The Administrative Provisions under the Fifth and Sixth Schedules give special powers to the States for the protection and governance of tribal areas and the Reservation Provisions ensure due representation of the Scheduled tribes and Scheduled castes in education, politics and employment.

The tribal development is a constitutional obligation of the State. Therefore, a large number of programmes have been undertaken for the development of the tribal communities to ensure a better quality of life for them and also to protect them from exploitation. The Constitution of India has provided a framework for equal opportunities to men and women by granting them equal political, economic, and

social rights. Liberal India formulated the Five-year plans where the state makes long term plans for integrated development of the country. On the basis of these plans, India moulded her tribal development programmes. Many schemes of development were formulated and implemented. Several schemes of tribal development are still active through different five year plans in India. Attempts have been made to make the scheduled tribes to develop socially, educationally, economically, politically and culturally. For the development of tribes, various models, approaches and theories of development have been propounded in different five-year plan periods like Community Development Programme, Multipurpose Tribal Blocks, Tribal Development Block, Development Agencies, Primitive Tribal Groups, Integrated Tribal Development Projects, Modified Area Development Approach, Tribal Sub-Plan, Dispersed Tribal Development Programme, and Centrally Sponsored Schemes etc. Numerous landless tribals were granted new land to cultivate, existing holdings were registered on inalienable title, and parallel programmes for social development were initiated. The intention was to preserve the tribal economic and cultural independence and to develop them to a level on which they could compete with the immigrants.

Contemporary societies cannot accomplish their aim of economic growth, technical development and cultural advancement without fully harnessing the talents of its citizens. As education is one of the most important and universally applauded factor of growth and development, it aids to elevate these marginalised groups from the filth and grunge of poverty and miserable living conditions to a better social status. Education, also, constitutes an essential ingredient for the economic modernization of the society. Moreover, in emerging societies, education is construed to be a kind of crucial investment as it generates much needed skill and knowledge for economic growth. The concern about the total national development cannot be pursued without addressing the issues related to the marginalised and underdeveloped communities.

Indubitably, various measures undertaken from time to time about rapid national development, adopting an important mechanism whereby integration of tribal society could be achieved, the accomplished results seem not to be satisfactory. As discussed by Sachchidananda, (1967) "education accelerates the process of economic development. Education, economy and society are closely interrelated — among all items considered for the development of the tribals, education is the most important as

it is the means and the end of real progress". He further argues that for availing benefits of the programmes, policies and the schemes operated through government and non-government organizations, education is compulsory. There is good reason for concern because, on virtually every measure of academic achievement, the disadvantaged in general and the tribals in particular, score significantly lower than their mainstream peers. The demarcation lines were first evident in schools, became wider at elementary school years, and linger comparatively flat during the secondary school years. Researchers floated numerous perspectives about the disparities in school achievement among marginal and mainstream learner and groups.

Since 1960s, numerous perspectives and factors have been advanced to define the below average performance of these marginalized sections of the society. Empirical facts put forward that tribal/marginalized children acquire the basic cognitive abilities and psychological temperament for victorious performance in schools, and their lower achievement levels are accredited to school as well as home-related variables as would apply to non-tribal students. The majority of these children were first generation learners whose education is not appreciated or sustained initially at home and finally rejected by their social milieu. Meagre performance and the below average situation of tribal students is determined by various interrelated factors. Besides cognitive incapability, unequal opportunities to learn, limited access to educationally relevant resources, ethnic and racial stereotyping, and cultural incompatibility between the home and school culture are certain factors responsible for poor performance. There is always a clarion call for the upliftment and assimilation of tribal groups in modern and civilized societies. To achieve this goal, education acts as a fulcrum.

The Gujjar and Bakerwal tribes of Jammu and Kashmir (J&K) constitute the largest tribal community and third prevalent ethnic group after Muslims and Hindus of J&K. Since most of the Gujjars have adopted sedentary forms of living, it assists them to avail various benefits like access to education, proper health care and medical facilities, political representation and access to cities. Moreover, there is also an awareness about various policies and programmes meant for them. Therefore, Gujjars are forging ahead of Bakerwals who are still transhumant. The present study is an attempt to study the impact of socio-economic status, intelligence and Achievement on the school achievement of Gujjar and Bakerwals students of Jammu and Kashmir

State. Besides, the influence of certain demographic characters viz., Gender, Clan and Division were also studied. The findings of the study are expected to reveal certain interesting factors to be used by all the stakeholders, teachers, parents, government and non-government organisation etc. Above all, this report will also be a source of reference for other researchers intending to study school achievement of tribal students in general and that of Gujjar and Bakerwals in particular.

## **1.2. Meaning of tribe:**

The term “Tribe” came into existence around the time of Greek city-states and the early formation of Roman Empire. Originated from the Latin term, “tribus” transformed to mean, “A group of persons in a primitive or barbarous stage of development acknowledging the authority of a chief and usually regarding themselves as having a common ancestor” (Oxford Dictionary, as cited in Hasnain, 1999). Over a period of time the range of meanings has developed further, for instance, Morris, (1980) avers tribe as, “a system of social organization encompassing several local villages, bands, districts, lineages, or other groups and experiencing a common ancestry, language, culture, and name”. Morris, (1980) also distinguished that a tribe is a “group of persons with a general profession, interest, or habit and a bulky family”. Imperial gazetteer of India puts a tribe as an assortment of families bearing a generic name, uttering a common dialect, professing to occupy a common territory and is not habitually endogamous, though originally it might have been so”. Lucy Mair attributes a tribe as an independent political division of the population with a conjoined culture (Hasnain, 1999). Vidyarthi, (1981) assigns a tribe as a social group with common territory, name, district, culture, taboos usually an endogamous group with a unique social, political and economic system and full in leaders and self-sufficiency. Krishnan, (1985) describes tribe as a social group, simple and kind, the members of which have a common dialect, common government, common name, contiguous territory, act together for common purposes and have a uniform culture and a tradition of common descent.

Correspondingly a diverse range of authors has portrayed the term “tribe” by diverse nomenclatures. Ghurye named them “Backward Hindus”, Das and Das renamed them as ‘submerged humanity’. Names like Aborigines, Primitive tribe, Adivasi, Autochthonous people, Indigenous people, Vaanyajati, Vanavasi, Adimjati etc. are

some of the synonyms frequently used for this term. In the primitive literature of India like Vedas, Puranas, Ramayana, Mahabharata, the tribals were uttered as Nishad, Sabarar, Kiratas, Dasyas, etc. They were also believed as earlier populace of this country. Among the recent attempts to provide a general definition of tribe, those by Ellman Service (1962) and by Marshall Sahlins (1961) have received some attention. As Shalins put it, "A tribe is a fragmental organisation, comprised of numerous equal, unspecialized, multifamily groups, each the structural replica of the other: a tribe is a congeries of equivalent kin group alliances (cf. Beteille, 2009)

The term "tribe" have not been defined clearly anywhere in the Indian constitution. Only the term "Scheduled tribe" explained as "the tribe or the tribal communities or parts of or group within tribes or tribal communities". These groups are supposed to be the oldest ethnological sector of the people (The constitution of India). The term "Adivasi" (Adi = original and Vasi = inhabitants) has currently gained currency among certain people. The international labour organisation (ILO) has classified such people as "indigenous". According to ILO conventions "the tribals/aboriginals" or semi tribal groups of the independent countries are the people deprived socially or economically and having their own customs, traditions and traits or they have their own special customary laws or conventions.

Majumdar, (1967) aptly commented that when one looks into the definitions given by various anthropologists, one is bound to be impressed by the dissimilarity of their views as regards what constitutes a tribe. Kinship ties, common district, language, ownership, one political organization, the absence of internecine strife have all been referred to as the main characteristics, but have also stoutly denied some of the characteristics of a tribe.

### **1.3. Geographical distribution of Indian tribes:**

Around two hundred million tribal people are in the entire globe, nearly about 4% of the global population. Globally India holds the second position after Africa in terms of tribal population. Indian census of 1981 candidly placed the tribal population of the country at 5.16 corers, encompassing about 7.76% of the total Indian population. After a span of two decades in the census of 2001, the population of tribal people stands at 84.3 million and contributing 8.27% of the total population. Recently the census of 2011 declared over 104 million tribal people constituting 8.6% of the

nation's population. There are about 689 scheduled tribes speaking about 105 languages and 225 speaking subsidiary languages. Conventionally tribals occupying about 15% of the nation's geographical areas, dwelling mainly in secluded forests, inaccessible rigorous mountainous terrain, away from the main stream and areas rich in natural resources (Revathi and Geetha, 2012).

Half of the tribal population of the country is concentrated in the states of Madhya Pradesh, Chhattisgarh, Jharkhand, Bihar and Orissa. Further, there is a sizeable tribal population in Maharashtra, Gujarat, Rajasthan and West Bengal. Geographically, one concentration of the tribal population is found in the Himalayas belt stretching through Jammu and Kashmir, Himachal Pradesh in the north, Uttarakhand to Assam in the west, Meghalaya, Tripura, Arunachal Pradesh, Mizoram, Manipur and Nagaland in the northeast. Within this tribal belt the states of Arunachal Pradesh, Mizoram, Meghalaya and Nagaland hold about 90% of tribal population, and 20 to 30% in the remaining states of Assam, Manipur, Sikkim, and Tripura.

Another tribal belt is found in the hilly areas of central India comprising the states of Chhattisgarh, Madhya Pradesh, Odisha and Andhra Pradesh. These states have the country's largest tribes; roughly 75% of the total tribal's live there, although consisting of only 10% of the regional population. In South Indian states of Karnataka, Tamil Nadu and Kerala, the western states of Gujarat and Rajasthan and in the union territories of Lakshadweep and the Andaman Nicobar Island, traces of tribal population are seen (Wikipedia).

#### **1.4. Tribes of Jammu and Kashmir:**

The state of Jammu and Kashmir (J&K) is unique both politically and geographically. Politically, having its own constitution and geographically located at a height of over 5000 feet above sea level, encircled by lofty mountainous ranges of Kara-Koram and the Himalayas. The constitution of J&K has notified twelve communities as the scheduled tribes - Balti, Beda, Bot, Brookpa, Changpa, Garra, Mon, Purigpa, Bakerwals, Gujjars, Gaddis and Sippis (Appendix—F). All these tribes were officially spelled out during the Census 2001, recording a total population of 1,105,979. The scheduled tribe population of the state comprises 10.9 per cent of the total population of the state, which forms nearly 1.3 per cent of the total tribal population of the country. Except Gujjar and Bakerwal tribes, most of them are found in Ladakh region



of the state. The Gujjar and Bakerwal tribes are mostly found in Jammu and Kashmir provinces of the state. Gujjar and Bakerwals (which are the focus of this study) are found in almost every district of the state but they are mostly concentrated in the districts of Poonch, Rajouri and Khatua of the Jammu province and in Kashmir valley they are mostly found in Anantnag, Baramullah, Kupwara, Badgam, Pulwama, and Kulgam districts (Rafaqi, 2014).

### **1.5. Profiles of Gujjars and Bakerwals:**

#### **1.5.1. History:**

Gujjar is a name usually uttered for a tribal community widely spread in North—Western India, from the Indus to Ganges and from the Hazara Mountain ranges to the Gujarat peninsula of India (Cunningham, 1868). The root source of the Gujjar is still disconcerted, as many historians and anthropologists have opined variedly regarding their origin. Within India, Gujjars are found in abundance in the states of Jammu and Kashmir, Punjab, Himachal Pradesh, Rajasthan, Uttar Pradesh and Gujarat, mainly engaging themselves with herding and agriculture in most places, dwelling in seclusion largely within the plains and the Hills.

Gujjar, always attributed as the warrior community, is also found in countries like Pakistan, Afghanistan, Iran and Russia. However, pronounced differently in different countries like Gujjar, Gojar, Gorjar, Godar and Kochar or Gorj etc. Historians variedly opine on the origin of Gujjars and their migration to India. Some of the historians are of the view that they had migrated to India from central Asia<sup>1</sup>. Cunningham (1868) traced their origin to the Indo-Scythian tribes, the Kushan and the Yuch-chi, who overran northern-western India in the 1<sup>st</sup> century AD. Smith, V. A., placed them among the White Huns who as itinerant travel in India around 465AD<sup>2</sup>. Historians confirm them as a community with a great though reckless warlike tradition, also depicted from their songs and folklore.

The earliest reference to Gujjar is found in Harshacharita of Bana, a Sanskrit playwright in the time of king Harshavardana (7<sup>th</sup> century A.C.) which links them with Hunas as enemies of Harsha's father. They find mention in the memoirs of various

<sup>1</sup> Retrieved from <http://mshahidch.tripod.com/id27.html> on 6<sup>th</sup> January, 2013

<sup>2</sup> Retrieved from <http://peoplegroupindia.com/profiles/gujjar> on 12<sup>th</sup> December, 2012

Mughal emperors (15<sup>th</sup> to 17<sup>th</sup> C) such as Baber, Akbar and Jahangir whom they put to a lot of trouble, rebelling, attacking their armies from the rear and carrying away cattle and provisions. It is mentioned that Akbar forced many of them to settle down in permanent village. At that time they were mainly a pastoral tribe given to war and plunder (Thackston, 1999). Hutton, (1961) writes about the Gujjar King Kanishka and their kingdom which ruled during the 1st century A.C and annexed Kashmir as well, during the 2<sup>nd</sup> century A.C. During the 3rd century A.C. Gujjars occupied Multan (now Pakistan) and during 5th century A.C they moved to the Indus.

The Gujjars established their kingdom in North—West India around Rajasthan where from they pushed down to Gujarat. Risley, (1901) rejecting the Cunningham's Yuch Chih origin hypothesis about the Gujjar supported the fact that the former are brachycephalic whereas the latter are dolichocephalic and describes them as "Indo—Aryan's". Smith like Bhandarkar, (1909) has assembled substantial confirmations to illustrate that Gujjar probably entered Northern India somewhere during 550 A.C. or in the wake of the White Huns. Another leeway suggests them as descended—like Rajputs and Jats—from the Scythian and Hun invaders of North India during the first five centuries A.C., thereafter became engrossed with the indigenous populations and were espoused into Hinduism, and later extended all over Northern India. In his book "Tareekh-e-Shahan-e-Gujjar" (history of Gujjar kings) Maulana Abdul Malik states that the power of Gujjar was finally and decisively destroyed by the Mughal emperor, Akbar the Great (16<sup>th</sup> century).

Some historians opine that intermarriages of Huns and Indo Aryans resulted into Rajputs. Gujjars and Bar-Gujjar (a Rajput Clan) often found mutually belonging to the same ethnic group (Ibbetson, 1883). Further, Ibbetson, (1883) suggests that Jats, Gujjars and perhaps Ahirs belong to one ethnic stock, invaded India at different times and got separated because of different occupations. Perhaps Jats were camel—graziers, the Gujjars the cowherds of the Hills and the Ahirs the cowherds of the plains. All the three groups are socially at the same plane with reference to the Rajputs who have always claimed a superior status. According to Ghurye, (1959) the notion of Gujjar is linked to the prime profession that this tribe followed i.e., Cattle-breeding (the Sanskrit word for the cow is "Gau" and the old Hindi word for sheep is "gadar"). Though "Gujjar" has come from "Gurjar" which is a Sanskrit explained as Gur + Jar; where 'Gur' means 'enemy' and 'Jar' means 'destroyer'. The word meant

destroyer of the enemy<sup>3</sup>. Gujjars have also been hypothesized as the descendants of the nomadic Khazar tribe. This argument is chiefly based on the assumption that the word Gujjar is derived from the word Khazar; as a matter of fact the Indo-Aryan languages are short of the sounds “Kh” and “z” renovates them correspondingly into “g” and “j”, subsequently configured to Gujjar. In the Gazetteer of Bombay Presidency, the British civil servant James M. Campbell identified Gujjars with Khazars<sup>4</sup>.

The earliest reference of/to Gujjar kingdom pertains to 5<sup>th</sup> century A.D., where Bhimal or Srimal as capital of a Gujjar kingdom in Rajasthan were mentioned. The Gujjar Pratihara kings of Bhimal later conquered Kanuj and became a permanent power in the North India. From Bhimal they moved to Gujarat. Raja Bhoj of Kanuj dynasty and other kings who prospered during the 9<sup>th</sup> and 10<sup>th</sup> century belong to Gujjars.

#### **1.5.2. The Gujjars of Jammu and Kashmir:**

The most primitive cite of the Gujjar in Kashmiri literature is found in Kalhana's Rajatarangini (Stein, 1900) written in 12<sup>th</sup> century A.C., mentions the name of a Gujjar King of Punjab (now in Pakistan) as “Ala Khan”, who relinquished some province to the Hindu ruler of Jammu at the end of the 9<sup>th</sup> century A.C. due to some conflicts. Drew, (1875) regards them as “Aryan” though not “High Aryans” being tall, lean with a long curved nose and light coloured eyes. “There is much in the physique and customs of the Gujjar which renders it probable that they are connected with Central Asian tribes.” Figure — 1.1 A & B, candidly reveal these tribal men and women in their traditional attire.

It is vastly accepted fact that the Gujjar being troubled in the plains and the outbreak of droughts and the famines make them to roam here and there. Lured by the lush green pastures, abundant forests and relative peace make Gujjars to migrate towards the Kashmir valley and adjoining areas. During the 19<sup>th</sup> century the Dogra rulers of the Kashmir were actively found encouraging the Gujjar to take up their abode in the valley (Lawrence, 1895).

<sup>3</sup> Retrieved from <http://gujjarbrothers.blogspot.in/p/history-of-gujjar.html> on 29<sup>th</sup> February, 2012

<sup>4</sup> Retrieved from <http://sites.google.com/site/gujjarbank/history> on 1<sup>st</sup> April, 2013

The Gujjars arrived in the state of Jammu and Kashmir during the 19<sup>th</sup> and the 10<sup>th</sup> century A.D. when Islam was flourishing in the northern parts of India. Historians attribute four major reasons for migration and settlement of Gujjars into the Jammu and Kashmir, (i) wars for the throne in Gujarat and its adjoining states, resulting in fighting and exodus of Gujjars after their defeat, (ii) frequent earthquakes and intolerable secession in Gujarat, Rajasthan and neighboring states, (iii) dearth of meadows and pastures for sustenance of life and cattle, (iv) above all it was also vital, after espousal to Islam, to migrate to new Muslim dominated areas<sup>5</sup>.

Regarding the ethnic classification and the ethnicity Rao and Casimir, (1982) argued that the term gojar is being used in an area stretching from beyond Nuristan in the north—west to the Northern Karnataka in the south. They also stated that the Gujjar first entered in the state of Jammu and Kashmir from Punjab and the North West Frontier province of Pakistan. It is now assumed that Gujjars of Jammu and Kashmir are the results of two separate migrations, one direct from the Gujjar tribes settled in Punjab, and the second migrated from the North West Frontier of Pakistan, which is supported by archival documents and the interviews conducted by Rao and Casimir. At the onset of India and Pakistan Gujjars remain distributed on either side of the border.

Rao and Casimir, (1982) also witnessed that the Gujjars, on the whole, speak derisively about the Bakerwal and those who among the Gujjars occupy important social or political status maintain that Bakerwals are the poor and backward strata of the mother Gujjar community with no cultural identity of their own. They further came across many informants that claimed Gujjar and Rajputs are from the same ethnic stuff (Crooke, 1973; cf. Rao and Casimir, 1982). Some other informants spoke of three distinct communities viz., the Gujjar, the Banihara and the Bakerwal; out of these three intermarriages occurs only between the first two groups, while as the Bakerwal are purely endogamous, a point that was substantiated by all Bakerwal informants. Regarding their occupation, most of the Gujjars were engaged in agricultural farming (mainly mano-crop cultivators of maize) usually done on rigorous hilly terrains (Figure—1.2 A, B), while as the Banihara's were engaged in animal husbandry owning cows and buffaloes, also a small chunk were engaged in

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<sup>5</sup> Retrieved from [http://www.jktribals.page.tl/Gujjar\\_-Social-structure.html](http://www.jktribals.page.tl/Gujjar_-Social-structure.html) on 28th November, 2012

horse rearing (Figure—1.3 A, B). The Bakerwal are itinerant and traditionally engaged in goat rearing whereas in some rare cases traces of sheep herds were also found (Figure—1.4). Among the Gujjars, one comes across both the transhumant and the true nomads: The former places their main emphasis on the water buffalo, while the later specialize in the more mobile sheep and goats. The true nomads never engage themselves in the agricultural works (Barth, 1956).

All the Gujjars of J&K are the Himalayan Islamic groups with a few exceptions, having a common dialect spoken by both Hindus and Muslims (Gorsi, 1960; and Grierson, 1925). In the state of Jammu and Kashmir, the present population of the Gujjar has been estimated to be 0.7 million which is still doubtful according to Gujjars communities<sup>6</sup>. A major portion of the Gujjars exists in the Sub Mountain regions along the Himalayas and the Siwalik Mountain Ranges; geographically they can be divided into two broad sections, one living in the Jammu province and the other living in the Kashmir province of the state. The former being a predominantly Hindu area patents a greater Hindu influence and the later being a predominantly Muslim area manifests the greater Islamic influence. The Gujjars are naturally subjected to the influence of the lifestyle and world view of the other communities living in their area especially as the later has a dominant position in their respective areas. However, the Gujjar of the two areas are vocal in emphasizing their close ties with each other (India and Pakistan).

### **1.5.3. Bakerwals of Jammu and Kashmir:**

The term “Bakerwal” is derived from the combination of two Gojri/ Urdu/ Punjabi/ Dogri terms “Bakri” meaning goat and “wal” meaning “one who takes care of”. Essentially the name “Bakerwal” implies high-altitude goat and sheep herders. Bakerwals are primarily pastoral nomads rearing goat and sheep in high-altitudes of Greater-Himalayas during summer and spend their winter in the plains and foothills of Shwaliks. They are special nomadic tribes mainly found in the Pirpanjal range of mountains located between the two states of Jammu and Kashmir and Himachal Pradesh. Bakerwals are also found in every corner of the Northern provinces of the

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<sup>6</sup> Retrieved from <http://www.greaterkashmir.com/news/2013/May/6/gujjars-file-petition-before-tribal-commission-62.asp> on 6th May, 2013

Himalayan range, namely the states of Uttarakhand, Himachal Pradesh and Punjab. The tribe is also known as Dhanger in several parts of India.

In Jammu and Kashmir Bakerwals are stretched out in all the three regions- Jammu, Kashmir and Ladakh. In Kashmir valley they are mostly found in the districts of Anantnag, Pulwama, Shopian, Kulgam, Budgam, Kupwara etc. Bakerwals plan their activities into four major segments of time: winter, spring, summer and autumn. Secondly, they act on space and plan their activities in outer hills (winter pastures) on migratory routes and Dhoks (summer pastures). They stay in the outer hills from December to mid-April. They plan their activities in this zone according to the demands of the winter season. They are migrating with their flocks (goat and sheep) towards alpine pastures of the Greater Himalayas from the last quarter of April till the first week of July. During this time they cross different topographic zones successively on the route of migration and their activities are controlled both by the passing of time as well as crossing over the space zones in regulating their daily marches according to environmental conditions. From June to September they graze on the Greater Himalayas alpine pastures from a fixed location and the activities of the transhumant are controlled both by passing of time and utilization of space. They again start returning to the winter bases in the month of October with the same route of migration and reach the outer hill zone by November every year. The nature of their oscillation, the planning of annual and diurnal activities over space and through time is to be perceived in time-space continuum as their activities are correlated with the two most pronounced time cycles in the physical environment i.e., Spring and Autumn migration. Throughout the whole journey, one of the basic characteristic of this tribal group is the possession of a specific kind of canine, usually called as Bakerwal dog, (Botia), fed by milk and maize bread (Roti) (Figure—1.5) (Rafaqi, 2014; Khatana, 1984). Researchers like Rao and Casimir (1982); Khatana, (1984) and Husain, (1987) and few others traced the transhumant routes of Bakerwal tribes from Jammu region to Kashmir valley. Figure—1.6 A, B, shows the transhumance routes of Bakerwals as highlighted by Rao, Casimir, and Khatana.

Rao and Casimir further argued that till the census of 1941 both the Gujjar and Bakerwals were treated as different tribes, but in the census of 1941, the Bakerwals were defined as the nomadic elements of the Gujjar tribe; they keep large herds of sheep and goats and a certain number of buffaloes and cattle.” (Census of India, 1941,

Report on Kashmir, Part I: 9-11, cf. Rao and Casimir, 1982) Seventeen years later, it was, however, stated that the Bakerwal “should be treated as distinct to the Gujjars (Report of the subcommittee of the advisory board for tribal welfare: 120—124). Rao and Casimir, (1982) stated that the Bakerwals of Kashmir were not endogenous, because most of the Bakerwal they questioned cited either swat or Kangan as their ancestral homeland. Another informant provided the following details: “the Bakerwal are divided into two sections, the Ilahiwal and the Kunari; the former are so called because they hail from Alai in Pakhtunistan and the later from Kunar in Zial Kangan Hazara. While as some informants had also mentioned that they themselves did not speak Pashto, but their ancestors did.

Whatever, the disparities amid the Gujjar and Bakerwal, it apparently seems that the social structure of the two groups is somewhat similar. There are number of Zat/Gotra referred to as clan by Khatana (1979). These Clans coincide to a great extent among the Gujjar and Bakerwal tribes. The census of India (2001) usually recognizes only two clans as the Gujjar Clan and the Bakerwal Clan.

#### **1.6. Statement of the problem:**

The problem selected for the present study is formally stated as:

**“A Study of School Achievement in Relation to Intelligence, N-Achievement and Socio-Economic Status among the Gujjar and Bakerwal Tribes in the State of Jammu and Kashmir”**

#### **1.7. Definitions of variables:**

##### **1.7.1. School achievement:**

**Conceptual definitions:** Crow and crow, (1969) defines achievement as the extent to which a learner is profiting from instructions in a given area of learning” while as Trow, (1960) defines it as the attainment, ability or degree of competence in school tasks usually as measured by standardized tests and expressed in school tasks usually as measured by standardized tests and expressed in age or grade units based on norms derived from a wide sampling of pupils’ performance. School achievement is defined as marks or grades that are obtained by a student in a test or examination (Good, 1973; Kerlinger, 1978).

Ryan and Deci, (2000) and Steinberg, (2004) avers to define achievement as in one of the three ways: school performance (the grades students earn in school), academic achievement (performance on standardized tests), or educational attainment (the number of years of schooling completed). Ryan and Deci, (2000) states that academic achievement refers to school performance outcomes such as grades acquired by the pupils on their report cards. Among the most commonly used indices to measure academic achievement are scores on standardized achievements tests, and grades in specific classes and grade point average (GPA) (Arbona, 2000). However, apart from evaluating students' success from their grade point averages, test scores and awards, teachers also pay attention to acquire skills and abilities (in both academic and life-skill domains), career preparation and content-based knowledge (Reeve, 1996).

Hawes & Hawes, (1982) identified school achievement as "the successful accomplishment or performance in particular subjects, areas, or courses, usually by reason of skills, hard work, and interest, typically summarized in various types of grades, marks, scores or discipline commentary".

Harold, E. Mitzel, (1984) states that "achievement is often defined in relation to the concept of aptitude by a single contrast: measuring the learning that takes place during a definite course of instruction is achievement testing measuring the outcomes of very lengthy and diffuse set of learning experiences in aptitude testing"

**Operational definition:** School achievement in the present study was taken as the percentage of total marks obtained by the selected students in their class 8<sup>th</sup> of session 2012-2013.

### 1.7.2. Intelligence:

**Conceptual definitions:** Intelligence is such a broad concept that it is quite difficult to give it a precise definition. However, the most famous study of experts' definitions of intelligence was done by the editors of the *Journal of educational psychology* ("Intelligence and its measurement," 1921). Contributors to this issue provided several different definitions as follows:

The power of good responses from the point of view of truth or facts (E. L. Thorndike); ability to carry on abstract thinking (L. M. Terman); Sensory capacity, capacity for perceptual recognition, quickness, range or flexibility of association,



facility and imagination, span of attention, quickness or alertness in response (F. N. Freeman); Ability to learn or having learned to adjust oneself to the environment (S. S. Colvin); Ability to adapt oneself adequately to relatively new situations in life (R. Pintner); the capacity for knowledge and knowledge possessed (B. A. C. Henmon); Biological mechanism by which the effects of complexity of stimuli are brought together and given a somewhat unified effect in behaviour (J. Peterson); capacity to inhibit an instinctive adjustment, the capacity to redefine the inhibited instinctive adjustment in the light of imaginably experienced trial and error, and the capacity to realize the modified instinctive adjustment in overt behaviour to the advantage of the individual as a social animal (L. L. Thrustone); capacity to acquire capacity (H. Woodrow); capacity to learn or to profit by experience (W. F. Dearbon) and sensation, perception, association, memory, imagination, discrimination, judgment, and reasoning (N. E. Haggerty), (cf. Sternberg, 2004). To the extent that there are common themes in these definitions, they would appear to be with respect to the ability to adapt to the environment and the ability to learn. Other contributors to this symposium did not provide clear definitions of intelligence, but concentrated instead on how to test it.

Good, (1973) has defined intelligence as “the ability to learn and to criticize what is learned; to deal effectively with tasks involving abstractions; and to learn from experiences and to deal with new situations.”

Conger & Petersen, (1984) explain it as “the ability to benefit from experiences to learn new ideas or new sets of behaviour easily.”

Sternberg, (1985) proposed componential, experiential and contextual sub theories of intelligence. Componential intelligence is concerned with components of mental functioning involved in cognitive tasks that underlie vocabulary, knowledge, insight and analogies. Experiential and contextual intelligence add creativity and practicality, respectively, to the understanding of intelligence.

Das, Naglieri and Kirby, (1994) proposed the information processing approach of intelligence; Intelligence includes Planning, Attention, Simultaneous and Successive processes (PASS Model).

Recently Howard Gardner, (2011) in his book “Frames of Mind: The Theory of Multiple Intelligence” stated eight varieties of intelligences viz., Linguistic, Logical-mathematical, Spatial, Musical, Bodily-kinaesthetic, Interpersonal, Intrapersonal and Naturalistic Intelligences. He further stated that all individuals do not possess them in equal proportion. The particular situation or the context decides the prominence of one type of intelligence over the other.

**Operational definition:** For the present study the intelligence of the respondents is taken as the measures of total raw scores obtained by the respondents on the Culture fair (SCALE 2, FORM A) test of intelligence, Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India)

### 1.7.3. Need-Achievement/ n-Achievement:

**Conceptual definitions:** Motivation refers to any organismic state that mobilizes activity selective or directive with respect to the environment (Newcomb, 1964). Murray, (1938) considered a need as a construct (a convenient fiction or hypothetical concept) which stands for a force (the Physio-chemical nature of which is unknown) in the brain region, force which organizes perception, apperception, intellection, conation and action in such a way as to transform in a certain direction an existing, unsatisfying situation. He defines need for achievement as “a desire or tendency to overcome obstacles, to exercise power, to strive to do something difficult as well and as quickly as possible.” He also assimilated achievement motivation along with the physiological and psychological needs underlying to personality development and achievement. McClelland, *et.al* (1953) identifies Achievement Motivation as an acquired tendency and is one of the most important social needs. Atkinson and Feather, (1966) viewed n-Achievement as the strength or the tendency to achieve that is expressed in the performance of a particular task by the personality character (achievement motive) and by the instantaneous environmental influences. Heckhausen, (1967) puts achievement motivation in the same line as defined by McClelland, but put emphasis on the role of anxiety. Decharms, (1968) defines achievement motivation as a complexion to endeavour for success in competition with others with some standard of excellence set by the individual.

The above definition indicates that the achievement motivation is a very vast concept which comprehend standard of excellence, will to achieve, achievement value,

upward striving, competence of performance, culture personality, achievement striving, need achievement, inner motivation, anticipation of positive results. In simple words, it is the mental state, cordial contentment of achieving the thing of which the subject forecasts.

**Operational Definition:** For the present study n-Achievement is the total score obtained by the respondents on standard Achievement Motivation scale (n- Ach) developed by Prof. Pratibha Deo and Dr. Asha Mohan (2011), Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India).

#### 1.7.4. Socio-economic status (SES):

**Conceptual definitions:** Thomas and Curri, (2001) view socio-economic status as person's position in any group, society or culture as determined by education, occupation, wealth and social class. The term socio-economic status is used by the sociologists to denote an individual or family's overall rank in the social and economic hierarchy (Mayer and Jencks, 1989).

Good, (1973) describes socio-economic status as "the level indicative of both the social and the economic position of an individual or group."

Kuppuswamy, (1962) attributed three important variables viz; education, occupation and income that contribute towards the socio-economic status of the urban people. Thus, education, occupation and income of the family are the key ingredients of one's socio-economic status. While as Srivastava, (1971) added cultural factor and social participant, making five factors as the indicators of socio-economic status (urban).

Eshleman and Cashion, (1985) defines socio-economic status as "an assessment of a person's education, occupation and income in a particular social system."

Parcell, (1984) defined socio-economic status as an index of social status that considered a person's occupation, education and income as a measure of social status."

Slavin, (1997) defines socio-economic status as "an ascribed characteristic of groups and typically viewed as a measure of prestige within a social group frequently based on schooling attainment, income and occupation."

Valencia and Suzuki (2001) emphasized on education of the parents, occupation of the parents and the income of the family as the three topmost categories to be used for measuring socio-economic status.

**Operational definitions:** In view of the various definitions and the social milieu the socio-economic status for the present study was taken as the sum total of the raw scores obtained by respondents on the socio-economic status scale developed by Divya Singh and Deepa Vinay, (2013) (SESS [R] —DSDV), Published by National Psychological Cooperation Kacheri Ghat, Agra—282004 (India)

### 1.8. Objectives of the study:

1. To find out the predictability strength of selected predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) for the total tribal sample.
2. To predict the predictability strength of the selected predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) for total male sample.
3. To predict the school achievement of total tribal female sample from the selected predictor variables (socio-economic status, intelligence and n-Achievement).
4. To predict the predictability strength of the predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) for the total sample of Jammu division (including male and female).
5. To predict the influence of socio-economic status, intelligence and n-Achievement on the criterion variable (school achievement) for the total sample of Kashmir division (including male and female).
6. To study the contributory role of various predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable (school achievement) among the total Gujjar sample (including Gujjars of Jammu division and Kashmir division).
7. To predict the predictability strength of the predictor variables (socio-economic status, intelligence and n-Achievement) on the criterion variable

(school achievement) among the total Bakerwal sample (including Bakerwals of Jammu division and Kashmir division)

8. To study the effect (main and interactional) of certain demographic variables (Gender, Clan and Division) on school achievement of the Gujjar and Bakerwal students.
9. To investigate the effect (main and interactional) of Gender, Clan and Division on intelligence of the Gujjar and Bakerwal students.
10. To investigate the effect (main and interactional) of Gender, Clan and Division on need-achievement of the Gujjar and Bakerwal students.
11. To investigate the effect (main and interactional) of Gender, Clan and Division on Socio-economic status of the Gujjar and Bakerwal students.

### **1.9. Hypotheses:**

1. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample.
2. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample
3. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample.
4. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Jammu division (including male and female).
5. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Kashmir division (including male and female).
6. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujjar sample (including Gujjars of Jammu division and Kashmir division).

7. None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample (including Bakerwals of Jammu division and Kashmir division).
8. There will be no significant effect (main and interactional) of gender, clan and division on school achievement of Gujjar and Bakerwal students.
9. There will be no significant effect (main and interactional) of gender, clan and division on intelligence of Gujjar and Bakerwal students.
10. There will be no significant effect (main and interactional) of gender, clan and division on need- achievement of Gujjar and Bakerwal students.
11. There will be no significant effect (main and interactional) of gender, clan and division on Socio-economic status of Gujjar and Bakerwal students.

#### **1.10. Delimitations of the study:**

The present investigation has been delimited in a number of ways.

1. Due to paucity of time and financial assistance only a sample of 626 students were selected.
2. All the respondents were selected from rural areas.
3. Only the students of class 9<sup>th</sup> standard were included in the sample
4. All the respondents were from the government schools.
5. The respondents were selected from only four districts namely Poonch, Rajouri, Kuphware and Anantnag.

Besides this, the present study was also confined to only three independent variables viz; intelligence, socio-economic status and n-Achievement; and one dependent variable school achievement.

*The next chapter presents the national and international scenario of various research studies.*

**Figure 1.1 A: Tribal Gujjar men in their traditional dress**



**Source:** Captured during data collection by the investigator.

**Figure 1.1 B: Tribal Gujjar women in their traditional attire**



**Source:** Captured by investigator along with a tribal friend Irfan Bajran.

**Figure 1.2 A: Tribal Gujjar ploughs the land**



**Source:** Captured by investigator during data collection at Poonch.

**Figure 1.2 B: Rigorous mountainous terrains for agriculture**



**Source:** Captured by the investigator during data collection at Poonch

**Figure 1.3 A: Banihara Gujjar's with buffaloes**



**Source:** By the investigator during data collection at Rajouri.



**Figure 1.3 B: Banihara Gujjar's along with their horse herders**



Source: Captured by investigator during data collection Anantnag

**Figure 1.4: Iterant Bakerwals on the road from Jammu to Kashmir**



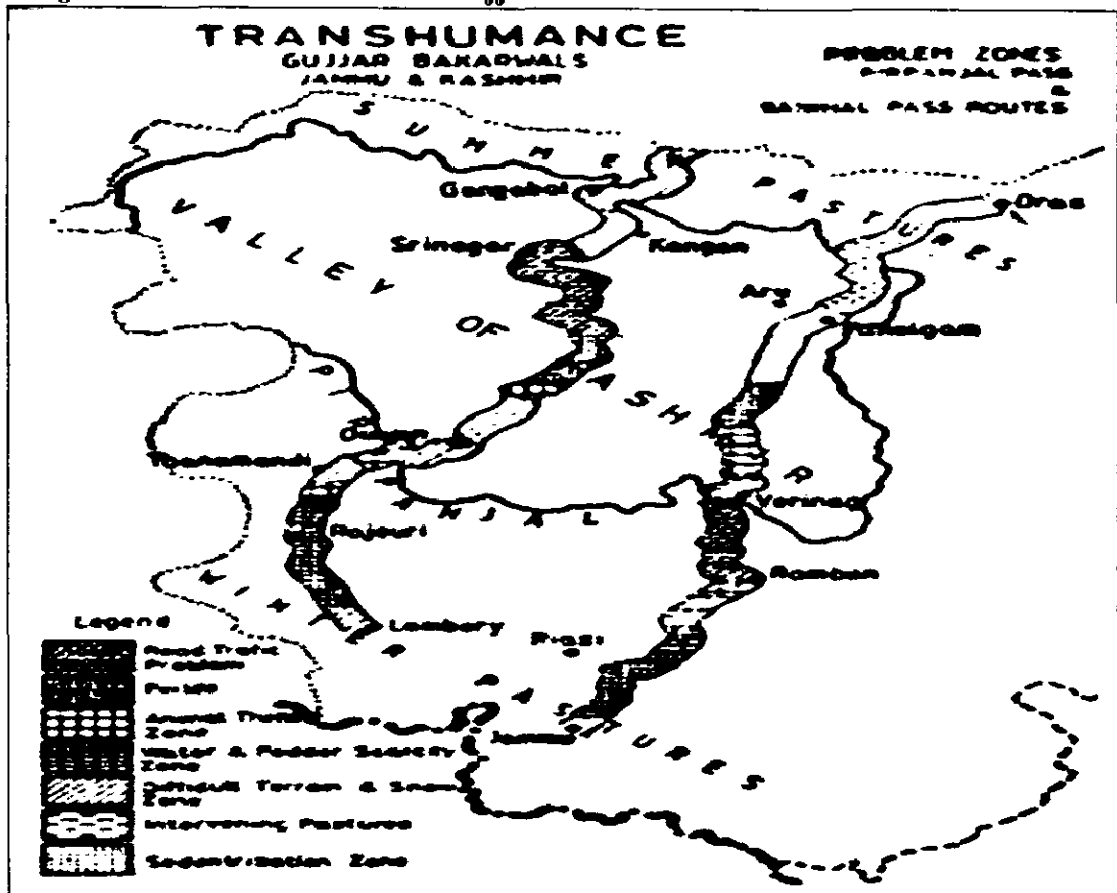
Source: Captured by investigator during data collection at Poonch Rajouri road

**Figure 1.5: A Bakerwal dog chasing the investigator during a visit to a tribal Dera**

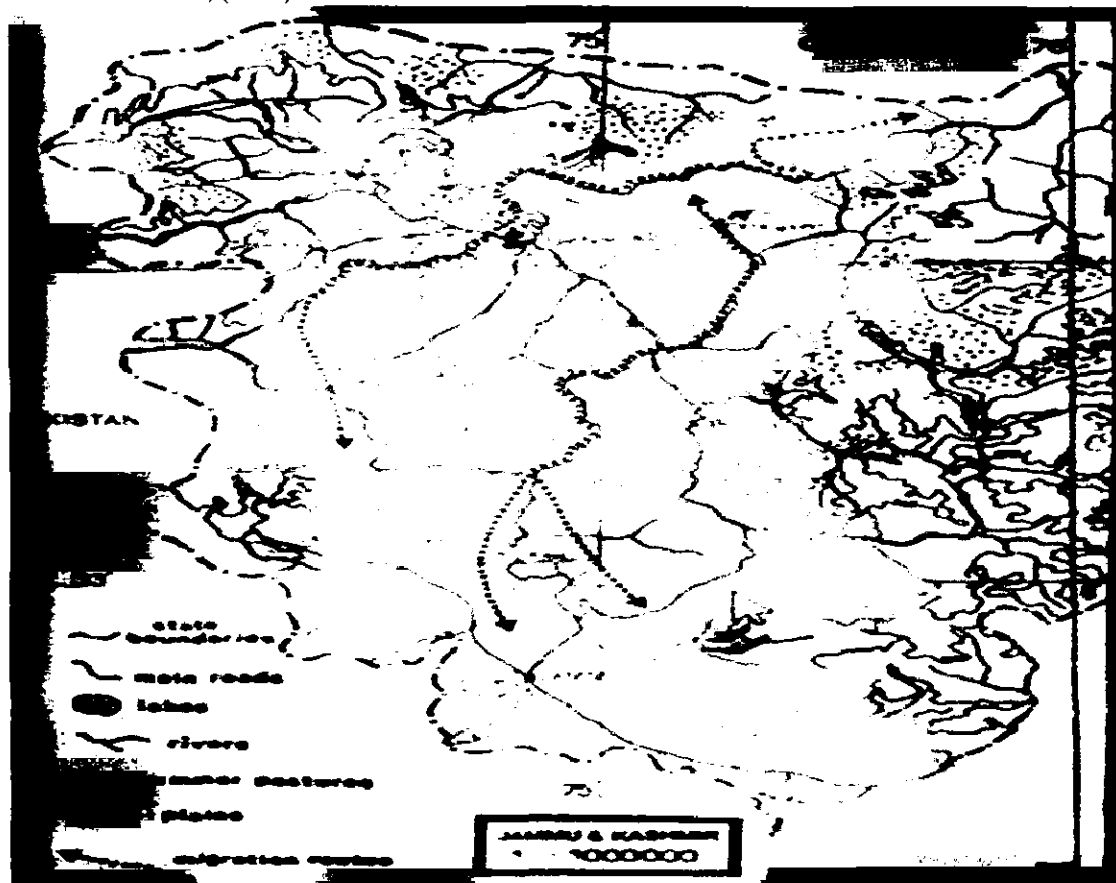


Source: Captured by investigator at Kashmir

Figure 1.6: Transhumance of Gujjar and Bakarwals of Jammu and Kashmir



Source: Khatana, (1984)



Source: Rao and Casimir, (1982)

## **CHAPTER-II**

### **REVIEW OF RELATED LITERATURE**

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## CHAPTER - II

### REVIEW OF RELATED LITERATURE

The review of related literature is an essential part of any scientific research. A review of related literature endows the researchers with an insight into the problem that the investigator is going to undertake. It also helps in determining the objectives and formulating hypothesis. Therefore, the main objective of a review of related literature is to have an appreciation of the trends of research in the field and about the gaps in area, if any. In this chapter the investigator has presented the review of various studies that were found significant in the present study. For the better understanding of the scenario, a world view of selected studies are arranged under following broad heads:

**Section 2.1:** Studies related to Gujjar and Bakerwal tribe.

**Section 2.2:** Studies related to the general tribal population.

**Section 2.3:** Studies related to school achievement and intelligence.

**Section 2.4:** Studies related to school achievement and socio-economic status.

**Section 2.5:** Studies related to school achievement and n-Achievement.

**Section 2.6:** Critical appraisal of the literature.

**Section 2.7:** Research gaps.

**Section 2.8:** Rationale for the present study.

#### **2.1. Studies related to Gujjar and Bakerwal tribe:**

**Lidhoo, M. L., (1986)** studied the child rearing and psycho-social development of Kashmiri tribes (Gujjars). The study aimed to assess the school going children (6-18), their school achievement, drop-out rate, parental attitude towards social change and the influence of communication on personal and social life of Gujjar families. Survey type of methodology and two check lists one administered on parents and other on teachers were used for data collection. The outcome of the study revealed that only 28 boys and girls of in the age group of 5 to 20 were studying in primary, middle and high school stage. None of the parents were educated formally because of that they

were indifferent towards the education of their wards. Girl's education was mysterious and they were found in a miserable living condition.

**Abrol, P. C., (1988)** conducted a study to explore the constraints regarding educability of Gaddis, Gujjar and Bakerwal tribes in the Jammu region. A total sample of 1111 respondents which comprises of 360 tribal family heads, 499 students from class VI to X, 252 teachers drawn from 36 secondary schools and 24 primary schools. A self-made questionnaire and an interview schedule was used for data collection. Findings reveal that, Gujjar were more satisfied than Bakerwals with the school system; parents had high aspirations for education and occupation of their children, and the children were strongly motivated for the better education and having no aspiration for the traditional occupations. Gaddi parents had better relation with the teachers as compared to Bakerwals. The majority of the students belong to lower socio-economic status, and were interested in gaining knowledge about their culture.

**Draft report on evaluation study of hostels for Gujjar and Bakerwal students., (1989)** conducted a survey on a sample of 172 Gujjar and Bakerwal students residing in hostels. The main aim of the study was to examine the utilization of these hostels and its effect on their education. All the hostels were provided with better facilities of lodging, each hostel has 9 teachers in service, but the educational results were not good as per the data none of the students passed with first division.

**Draft report on evaluation study of mobile school for Gujjar and Bakerwal students., (1989)** directorate of economics and statistics has conducted a study on a sample of 28 mobile schools and 220 students. The findings of the study reveal that upto end of 1987, 244 mobile schools were opened, with 63000 students enrolled. Most of the schools have not been provided the necessary environment. 61% of the teachers belonged to Gujjar clan, 17 % to Bakerwal clan and the rest were non Gujjar/Bakerwal. Free uniform was given to only 17% students. Free books were provided in Poonch and Rajouri only.

**Baba, A. R., (1992)** conducted a comparative study of educational achievement and social awareness among the male hosteler and non-hosteler Gujjar and Bakerwal students of Srinagar district. The objectives were to find out the impact of hostel facilities on their academic achievement, to compare the school achievement of hostelers and non-hostelers and the extent of social awareness among the hostelers

and non-hostelers tribal students. A self-constructed questionnaire was framed and used by the investigator for the collection of the data. The study revealed that the hosteler boys had a healthier academic achievement; better awareness towards health and hygiene, than that of non-hostellers.

**Balgir, R. S., (2003)** compared anthropometric characters of 200 adults belonging to Hindu Gujjars in the Ropar district of Punjab and Muslim Gujjars in the Chamba district of Himachal Pradesh. The results reveal that they differ significantly from each other for many physiognomic measurements, suggesting the biological diversity, morphological variations and regional diversity of the two population groups of North- Western India.

**Dabral, S., and Malik, S. L., (2004)** studied the population structure and socio-cultural profiles of the Gujjars in Delhi. The objectives aimed to evaluate the population composition, sex composition and socio-economic characteristics viz., marital status, educational status, occupational status, and economic status of Hindu Gujjars. Schedule interview technique comprising of both closed and open ended questions was used for gathering information. The findings of the study revealed that one third of the population is below 15 years of age, by the age of 29 years all the females and nearly all males got married, the literacy rate (total) among Gujjars is 79.37 per cent, while it is 86.83% for males and 71.19% for females. Generally a higher percentage of males than females have completed each level of education. The percentage of highly qualified individuals is less among Gujjars.

**Arora, S., and Kandara, S., (2005)** studied the time use pattern of adolescent Girls of Gujjar community. Time use pattern of 30 adolescent girls in the age group of 12-15 years of Gujjar community were studied with the help of an interview schedule and observation. The study revealed that adolescent Gujjar girls start doing work both indoor and outdoor after the age of 5 years. About 5 hours and 55 minutes were consumed in indoor household activities like cooking, serving, cleaning, washing of clothes and utensils and about 6 hours and 16 minutes were consumed in outdoor household activities which were milking, grazing, fodder cutting, collection and making of cow dung cakes and washing of animals whereas they were able to spend only 1 hour and 40 minutes for rest and they had to manage their time for sibling care and self-care from this rest period only.

**Tribal research and cultural foundation., (2006)** conducted a survey that aimed to examine the socio- economic status of the Gujjar and Bakerwal tribe and to analyse the basic facilities provided by the government. Survey based technique was employed to gather the information. The conclusions revealed the majority of Gujjar and Bakerwal are living below the poverty line. More than 50% are not capable to manage two times meals. The houses are unhygienic, without proper ventilation leading 43% women, 23% male and a good number of children prone to diseases. Above 71% of Gujjar and Bakerwal were not aware of government schemes and policies. All the basic facilities are null and void like drinking water, education, medical facilities, lighting system, roads, etc.

**Tufail, M., (2012)** conducted a study to examine the impact of unrest on the livelihood, transhumance practices of Gujjar and Bakerwals of Jammu and Kashmir. The study revealed that prohibition through age old routes leads them to depart their traditional occupation of seasonal movement. Long-term displacement also causes loss of traditional occupation, changes in socio-cultural life patterns, disintegration of families and community structures of the whole tribe.

**Koundal, V., (2012)** the purpose of the study was to discuss the extent of poverty in the nomadic society of Gujjars in the Udhampur and Kangra district of J&K and H.P states. Secondary source data from the Census of India, department of social welfare from J&K and H.P, Ministry of tribal affairs, and from different reports of the state and central governments were utilized. The primary data was collected through socio-economic surveys. The main findings of the study revealed that a large population of nomad Gujjars in the state of J&K and H.P is living below the poverty line. The household survey of nomadic Gujjars shows a big discrepancy between income and expenditure. Most of the nomads are literally avoid of schemes operating by the state and central governments for their upliftment and poverty eradication. They are economically, socially and culturally in a poor position.

**Ahmed, N., (2013)** attempted to examine the spatial distribution and demographic characteristic of Gujjars and Bakerwals with special focus on their population and settlement in Rajouri and Poonch districts of J&K. The study revealed that the socio and economic backwardness of the Gujjars and Bakerwals is a function of rugged topography, hilly terrain, prejudices, orthodoxy, illiteracy and the traditional mode of

life. There is a conspicuous shift from transhumance to agricultural and non-agricultural sectors, among the Gujjars and Bakerwals.

**Bhat, S. A., (2013)** utilizing the secondary source of data Bhat tried to analyse the magnitude of Socio-economic conditions of schedule tribes of Kashmir. The study revealed that the economic poverty among schedule tribes of Kashmir is more than the general population of the region, their housing, sanitation, electricity, and health care facilities are very low, sub-standard than other sections of the population.

**Butt, T. I., and Gupta, R., (2013)** studied the demographic details and development policies of Indian tribal in general and tribes of J&K in particular. The study reveals that there are very affluent, highly educated and has a good number in white-collar job holders among the Gujjars of J&K. There is not any sign of poverty, illiteracy and backwardness among the Gujjar tribal people of Jammu division. Besides, they are not backward, but more advanced and developed in comparison to scheduled castes of the state with a little difference in the literacy rate of the general population. Many educated tribal play active roles in the new political system.

**Sofi, U. J., (2013 a)** studied the paradox of tribal development among Gujjar and Bakerwals of J & K. The study reveals that despite various policies and programmes for their development by the state and central governments, these tribal continue to live in pathetic conditions.

**Sofi, U. J., (2013 b)** studied the sedentarization process of the transhumant Bakerwal tribals of the Jammu and Kashmir. 40 households were randomly selected from Anantnag district. The results reveal that Bakerwals are primarily pastoral nomads rearing goat and sheep in the high altitudes of the greater Himalayas during summer and spend their winter in the plains and foothills of Shwaliks. They are found in the Pirpanjal range of mountains located between the two states of J&K and Himachal Pradesh. In Kashmir valley they are mostly found in the districts of Anantnag, Pulwama, Shopian, Kulgam, Budgam, Kupwara etc.

**Rafaqi, M. Z., (2014)** studied the socio-economic status of Gujjar and Bakerwal of J&K. The study reveals that both these tribal groups live in a very pathetic condition; Gujjars are more developed when compared to Bakerwals.



**Suri, K., (2014)** studied the challenges confronting in educating the tribal children of Poonch district of J&K. Migration to higher reaches in summer, remoteness of the district, its difficult geographical and highly inaccessible terrain, lack of awareness among the people and teacher absenteeism are the biggest hurdles in the way of educating these tribal children.

**Tufail, M., (2014)** studied the demographic, social and cultural characteristics of Gujjar and Bakerwals, of J&K. The study revealed that the majority of Gujjar and Bakerwals are the habitants of Jammu province of the state due to rich resources of pasture lands. The sex ratio among the community is much lower than the national average. They have a distinct culture, adopting a joint family pattern, their lodging places (Dera or Kacha houses) are usually made up of wooden roof. But some of the families have pacca houses which are being settled in the winter pastures.

**Rafaqi, M. Z., (2015)** conducted a study which aimed to study and compare the school achievement of Gujjar and Bakerwal tribes of Jammu and Kashmir state. The study candidly reveals that collectively the school achievement of Gujjar and Bakerwals is very low with an average of 53.59. Among these tribes the Gujjar and Bakerwal students of Jammu division have better school achievement than that of Kashmir division.

*The next section sums up those studies which deal with studies carried out on different tribal groups other than Gujjar and Bakerwals.*

## 2.2. Studies related to other tribes:

**Choudhuri, P., and Sinha, U. P., (1959)** compared concrete intelligence of tribal and non-tribal school girls of Ranchi district. The total of 100 respondents comprising of 50 tribal and 50 non-tribal girls of 6-16 years of age served sample for the study. Alexander's pass along, cube construction and the block design tests along with the Dearborn form board test were used for data collection. The results reveal that tribal and non-tribal groups' doesn't differ in intelligence. During the initial stages (6-10 yrs.) tribal children exhibited fewer capabilities of cognitive analysis and synthesis than the non-tribal but later on between (11-16 yrs.) both groups showed about the same degree of concrete intelligence in all aspects.

**Kar, S. B., (1961)** studied the concrete intelligence of Hos tribes. The Alexanders concrete intelligence scale and the Porteus Maze Test, were administered on 116 Hos covering 47 men and 37 women and 32 school boys. The conclusions reveal that the school boys were superior to men and both were superior to women's.

**Nomani, H. R., (1964)** compared concrete intelligence of Christian and non-Christian tribal boys and girls of Munda tribe. A total of 240 Christian and non-Christian Munda boys and girls between 9-16 age groups from various schools of Kunti subdivision were selected by random sampling technique. The conclusions depicted that no significant difference was found in concrete intelligence among Christian and non-Christian boys and girls. Non-Christian boys performed better on the Alexander's battery than non-Christian girls.

**Sinha, R. R. P., (1964)** compared the intelligence of tribal and non-tribal school children selected from rural and urban areas of Ranchi district. 560 respondents comprising of 280 tribal and 280 non-tribal male students were selected as a sample for the study. Alexander's performance scale was used to measure intelligence the findings revealed that no significant difference was observed in intelligence of tribal and non-tribal. Rural tribal differs from non-rural tribals in intelligence while as rural non-tribals did not differ significantly from urban non-tribal in intelligence and the mean intelligence score of non-tribals was greater than that of tribals of rural areas.

**Reddy, S. M., (1980)** examines the socio economic structure of the tribal communities of Maharashtra. The major aims of the study were; to study the

economic structure of the tribal population and to analyse the influence of education on economic status. The major findings of the study revealed that 95% of the ST's were residing in the rural areas and the sex ratio was higher among them as compared to the non ST. Only 4.2% of the female were literate. It was also found that the working pattern of the tribes varied between districts and tribes mainly due to the economic development of the district.

**Dutt, M. L., (1983)** compared tribal male students having high achievement motivation with those having low achievement motivation on different variables. The study was conducted on 200 tribal and 200 non-tribal students drawn from 29 high schools of Chamba district of Himachal Pradesh. The results exposed that high achievement motivation tribal student(s) were better in intelligence than low achievement motivation. Non-tribal students were better than tribal students in intelligence.

**Balakrishna, (1986)** studied the effect of social, cultural deprivation on cognitive and non-cognitive abilities of tribes. The objectives of the study were to compare the Christian and non-Christian adolescents in terms of their verbal intelligence, and achievement motivation. A sample of 300 male tribal high school students covering 150 Christians and 150 non-Christian of Santhal Parganas were selected by adopting the incidental sampling technique. Mohsin's general intelligence test; Raven's standard progressive matrices test, Mukherjee's sentence completion test, and personal data schedule were used for collecting the relevant information. The major conclusions revealed that, the Christian tribal students possessed more intelligence, better reasoning ability and higher achievement motivation than non-Christian tribal students.

**Fatmi, S. M. B., (1986)** conducted an empirical study on 446 tribal and non-tribal students of Hazaribagh district. Accidental-cum-purposive sampling techniques were adopted to obtain the required sample. The objective of the study was to study achievement related motivation among tribal and non-tribal boys and girls. Out of 446, 220 were from the tribal group (with 122 males and 98 females) and 226 non-tribals (with 140 males and 86 females). The findings revealed that non-tribal girls were superior in achievement related motivation. The areas of residence and SES were important determinants of achievement-related motivation.

Awasthi, *et al.*, (1987) conducted a study that aimed at studying the correlation between education and socio economic mobility among Kharia, Munda and Oraon tribes of Bihar. Sampling was done on the basis of educational achievement of each tribe in terms of literacy percentage and population. A self-constructed interview schedule was prepared to obtain required information from both educated and uneducated individuals of the sample. The findings of the study revealed that there was a close interrelation between education and socio economic mobility. Education induced horizontal social and occupational mobility the pace of social, economic mobility was found to be insignificant among the illiterate groups.

Murthy, and Chandra., (1987) attempted to find out the difference between SC/ST and non-SC/ST in their intelligence, SES and birth order. The study aimed to find out the relationship between SES and intelligence among SC/ST and non-SC/ST and to find out whether these groups differ from each other with regard to intelligence. Raven's coloured progressive matrices, B-Kuppuswamy (modified version by Manjula) and personal data sheet were the tools utilized for data collection. The major conclusions revealed that the three groups differed significantly on intelligence. SC group differs from the non-SC/ST group in intelligence. The ST group differs from the non-SC/ST group in intelligence.

Busari, C. V., (1988) attempted to know the correlation between intelligence and scholastic achievement of SC/ST students of Vidarbha. 4050 students belonging to SC/ST and other backward categories from 78 schools were selected randomly. The results revealed that there was a positive correlation between intelligence and scholastic achievement of SC/ST students in almost all the subjects.

Gaur, *et al.*, (1988) presented the psychological basis of educational and vocational development of SC and non-SC students. A sample of 310 SC and 165 non-SC high school boys were selected through purposive random sampling method from four districts of Haryana. R. K. Ohja's mixed type of group test of intelligence was used to measure intelligence. The findings reveal that non-SC boys were better than SC boys in intelligence.

Ray, M., (1988) attempted to analyse the difference in the intelligence of the Santhal and the Kora tribal groups. The objectives aimed to study the genetic and racial difference in intelligence among Santhal and Kora's. 200 tribal individual (25-50

years) 100 Kora's and 100 Santhal's drawn from Santhal Parganes served as the sample for this study. Ravens Standard Progressive Matrices and Pareek and Trivedi's SES scale were used as the tools for the collection of the data. The conclusions reveal that the mean intelligence score of Santhal's was significantly higher than those of Kora's. No significant difference was found between male and female of the two tribes.

**Bej, J., (1991)** compared the general intelligence among SC and ST boys and girls. This study was conducted on 246 SC and 246 ST boys and girls studying in 5<sup>th</sup>, 6<sup>th</sup> and 8<sup>th</sup> standard. A general intelligence test developed by Bhattacharya was used for the purpose of data collection. The findings revealed that higher class SC/ST were superior to lower class SC/ST in intelligence. Also boys and girls did not differ in general intelligence.

**Manju, L., (1992)** studied the academic achievement of tribal and non-tribal pupils of Ranchi city the major aim of the study was to find out the subject wise performance and preference of the senior secondary school tribal and non-tribal students and to study the influencing factors of performance and preference. 400 informants were selected through random sampling covering 200 tribal and 200 non-tribals. A questionnaire consisting of structured and non-structured items was devised to collect the relevant information by the investigator. The major findings revealed that tribal students differ from nontribal students in their preference and performance. Intra-cultural variations existed in the scholastic activities of the senior secondary school pupils. The study also revealed that cultural and school environment where the operating factors behind the scholastic attainment.

**Ghosh, S., and Sikdar, D., (2000)** studied the impact of mass literacy program among the children of the Sundarband tribal belt. The main aim of the study was to examine the knack of reading, writing and numeracy among 96 neo-literates of Mass Literacy Program of tribals. A questionnaire formulated according the norms of Dave Committee Report, (1992), was utilized for the collection of data. The findings reveal that the scores of non-tribal neo-literates were better than that of tribals in the 3 R's (i.e. reading, writing and arithmetic). Also, the scores of male neo-literates were better than those of female neo-literates.

**Jayaswal, M. et al., (2003)** The study aimed to analyse the role of parental support on academic achievement, and to explore the impact of parental need for achievement, parental aspiration and behaviour on the academic achievement of tribal students of Jharkhand. A sample of 300 children, covering 270 tribal Christian and 30 tribal Sarnas was drawn from ten schools of Ranchi town using multi-stage sampling procedure. Personal data questionnaire, academic achievement test, and parental support scale were used for the collection of data. The findings reveal that parents of the high achiever tribal students exerted significantly more support to their children's studies than the parents of low achievers. The parents of high achievers have greater work commitment, higher aspiration for their children's educational success, they also believe in counselling for correct behaviour whereas the parents of low achievers believe in physical punishment, like frequent beating, and are unable to guide in homework.

**Kao, G., and Thompson, S., (2003)** provided an overview of recent empirical research on racial, ethnic, and immigrant differences in educational achievement and attainment, and examined some current theories that attempt to explain these differences. They explored group differences in grades, test scores, course taking, and tracking, especially throughout secondary schooling, and then discuss variation in high school completion, transitions to college, and college completion. Overall, there are many signs of optimism. Racial and ethnic gaps in educational achievement and attainment have narrowed over the past three decades by every measure available to social scientists. Educational aspirations are universally high for all racial and ethnic groups as most adolescents expect to go to college. However, substantial gaps remain, especially between less advantaged groups such as African Americans, Hispanics, and Native Americans and more advantaged groups such as whites and Asian Americans. The racial and ethnic hierarchy in educational achievement is apparent across varying measures of the academic experience.

**Vijayalakshmi, G., (2003)** studied the problems of secondary school tribal children. The major objectives of the study were to identify the most and least affecting problems of high school tribal children and to suggest the remedial measures to overcome them. 240 students from VII, IX and X class from different schools were randomly selected as the sample. A checklist was prepared to gather the relevant information. The conclusions identified that the tribal students had more problems

with regard to their parents and family followed by personal, infrastructural and facilities, academic and teachers related. The individual problems that students faced were low social status of the parent's, lack of education of parents, cultural backwardness of the family and low educational levels of the siblings and nomadic life of parents. The study also revealed that the boys had more problems as compared to girls.

**Rao, D. P., (2005)** analysed the status of primary education among the scheduled tribes of Andhra Pradesh. The objectives of the study were: To study and compare the literacy rate, enrolment of ST with the non-tribals, and to analyse the proportion of ST teachers to general teachers, district wise. The findings reveal that: Females lag behind males in literacy rate, government initiatives aimed at motivating the tribal to enrol their children in increasing numbers were bearing fruit, especially in respect of enrolment of boys, and enrolment ratio did not seem to be related to the development of a region. Cultural taboos seemed to constrain tribal from enrolling their girls in schools. The dropout rate among ST girls was much higher than ST boys. The student - teacher ratio seems promising.

**Shrutikar, P. K., (2007)** in this article the author discusses the cultural aspects of the Idu Mishmi's living in the Lower Dibang Valley of Arunachal Pradesh. The study examines their attitude towards education and its relationship to improve the standard of living in particular. The study explored that the educated youths comfortably mix with different cultural groups and are more exposed to science technology than the older generation. Geographical barriers to communication are also declining, and the impact of new ideas is increasingly evident. Significant changes are observed in the political system, in the operation of customary law, and in religious life. The conversion of a small number of Idu Mishmi's to Christianity also had an impact.

**Demir, C. E., (2009)** estimates the individual and combined effects of selected family, student and school characteristics on the academic achievement of poor, urban primary-school students in the Turkish context. Participants of the study consisted of 719 sixth, seventh, and eighth grade primary-school students from 23 schools in inner and outer city squatter settlements. The findings indicated that the set of variables comprising student characteristics, including well-being at school, scholastic activities and support, explained the largest amount of variance in academic achievement

among the urban poor. Although the effect sizes are small, family background characteristics and school quality indicators were also found to be significantly related to academic achievement.

**Eddy, L., (2011)** studied the effect of mobility on student's school achievement. This study adopted a quantitative design; student records were obtained and a criterion referenced test scores in mathematics and language arts were utilized to measure academic achievement. Findings revealed that non-mobile students performed better than mobile students, low-income status affected mobile students negatively, and mobility level of the school attended had a negative effect on the academic achievement of its students.

**Pandey, K., (2011)** The present study deals with the transhumant Gaddi population of Bharmour (Chamba district, Himachal Pradesh) that travel from one ecological zone to another in winter and summer. The study revealed that the literacy among these tribal groups is growing, tribal women are very much conscious about their health, the majority of them are aware about the policies and programs offered by government and NGO's.

**Rajam, V., and Malarvizhi, V., (2011)** studied the educational status of tribal children in the Nilgris district. The study was based on the primary data that was collected with the help of well-structured and pre-tested interview schedule, administered to 600 respondents. A purposive random sampling method was adopted in data collection. The determinations of the survey exposed that given the opportunities were not utilized fully; sometimes they were contradicted by their own caste people, which resulted in conflicts, problems and tensions. The study suggested that, massive community program could be taken with a view to change the aspiration levels of the disadvantaged children and a crèche attached to the school may lighten the domestic burden of school girls.

**Attaran, M., et al., (2012)** analysed the narratives of teacher regarding the nomadic tribes learning culture. The data analysis shows that students' learning and corporal punishment are the chief worries of the wandering teacher. This study shows that several features of nomads' lifestyle cause disruption in the teacher instruction, which leads to corporal punishment.



**Dutta, J., (2012)** studied the factors responsible for dropout among the primary school tribal students in Kamrup district of Assam. It was found that household income, household size and parent's education are some of the significant factors having an influence on school dropout.

**Judith, G., and Barry, C., (2012)** investigated the relations between gender, parental education, ability, and educational achievement in Britain, focusing on the way in which gender and parental education interact with ability to contribute to a pupil's obtaining secondary school qualifications. By employing Ragin's Qualitative Comparative Analysis the study revealed that in both academically selective and non-selective schools, high ability is a quasi-sufficient condition for obtaining certain levels of qualification, but that at lower levels of ability, either being female or having highly educated parents (or both) have to be present, too. Boys without highly educated parents perform less well than girls from a similar background.

**Kulkarni, V. V., and Sonal, S., (2012)** studied the gender based aspect of academic achievement among tribal students. A total of 60 male and 120 female students were taken from three ashram schools of Ahmednagar district of Maharashtra. The required information was collected with the help of Achievement Values Anxiety Inventory (AVAI) and School Adjustment Inventory (SAI). The respondents were also interviewed. The data were analysed gender and grade wise. The findings reveal that the male and female students underperformed in semester exam and the gender difference was not significant. The motivation level of female students was higher than males while school adjustment was same among male and female students. Also, it was found that the students have the potential to excel in academics but their academic achievement is low. The study concluded that the role of gender in academic performance is limited. Unfavourable family background, low quality of education at school and inconsistencies in the curriculum are proximate and most significant factors affecting the academic achievement of the tribal students.

**Manjunath, B. R., and Annapurana, M., (2012)** studied the socioeconomic status and the reasons for school Drop-out among the Soliga, Jenukuruba and Betta Kurubas tribes of the Chamartjangar district in Karnataka state of India. The results of the study revealed that all the members of all the three tribes were illiterate; they were living in a very unhygienic condition, with bad economic status. The reasons for the

school dropouts were found to be poverty, disinterest and illiteracy of parents, household work, learning disability, illness, lack of transport, migration of parents, and other socio-cultural factors.

**Patil, D. S. *et al.*, (2012)** explored the socio-economic profiles of sheep rearing Dhangar pastoralists of Maharashtra. 12 villages from two blocks were selected purposefully on the basis of existence of maximum Dhangar pastoralists. A total of 120 respondents were selected randomly from 12 selected villages. Quantitative and Qualitative data were collected through personal interview schedule along with participatory observation, interaction and discussion with key informants, aged persons, housewives and traditional healers. The data thus generated were analysed by calculating simple frequencies, percentages, means etc. along with descriptive analysis. The results indicated that the majority of respondents (51%) belonged to middle age group (37-54 yrs.) followed by (29%) old age (55-72 yrs.) and the rest (20%) middle age group. The joint family system was more prevalent (57%) among Dhangars followed by nuclear family system (43 %). In case of the family size majority of the respondent (47%) had more than 8 members followed by 5-8 members. The educational level of the respondents revealed that the majority of the respondents (60%) were illiterate, followed by Primary (23%), secondary school (15%) and high school (1%). In the pooled sample it was observed that the majority of the Dhangars (54%) belonged marginal land holding followed by 18% small land holding and (14%) of the respondents were found landless. Only (10%) of the respondents were found large farmers category having more than 10 acres of land. The study also indicated that the majority of the respondents (44%) had an annual income ranged between Rs. 50000-100000 followed by (26.66%) less than Rs. 50000. The rest of the respondents had their yearly family income more than Rs. 100000. It was observed that Dhangars had their own ownership of the sheep. They did not herd others sheep on the lease basis or with the shared ownership. They have their emotional attachment with their own sheep. They mainly rear sheep as ancient tradition from their parents.

**Thakur, B. R., and Sharma D. D., (2012)** evaluated the tribal developmental programs in the Bharmaur region of Himachal Pradesh. The study utilized the secondary information and provides an overall picture of development initiatives for the upliftment of tribal communities adopted by the government of India in general

and by the government of Himachal Pradesh in particular. The study focuses on the Gaddis, inhabiting in Bharmaur region of Chamba district. The study reveals that despite various development programs, policies and projects introduced to improve the well-being of tribal people, the issue of development among tribals remain still alive.

**Basu. A., (2013)** studied the causes and consequences of school dropout among tribal and non-tribal students. The author utilized primary and secondary sources of data from six blocks which were randomly selected. Three tier questionnaires have been used for the collection of data from headmasters, students and community people. Besides the secondary source data which included data related to the economy, literacy, ethnicity of the locality, were obtained from the offices of GP. The study explores that poor availability and accessibility of education, poor economic background of the family, poor infrastructural availability of the schools, poor motivation from guardian, and poor learning environment of the society where the consequences for the school dropout of tribal and non-tribal students in these areas.

**Chhetri. D. P., (2013)** studied the tribal population and development policies in the province of Sikkim. The survey brought out that the status of this community in the state of Sikkim is totally dissimilar from the other tribal population of the state. In Sikkim, the tribal people are very affluent, highly prepared and possess a good number of white-collar jobs. The educational progress of scheduled tribe populations is quite extraordinary. There is little difference between the literacy rate of the general population and tribal population. Many educated tribals play active parts in the new political organization. The tribes have been provided a space in the decision making body like state legislature and local bodies. As against 20 per cent population, 12 seats out of 32 (i.e., 37.5 per cent) are reserved for tribal in the Legislative Assembly. Similarly, there is a reservation of seats for tribal in both rural and urban local bodies. As a result, their presence is also good in local governance.

**Kulkarni, V. V., (2013)** a total sample of 60 male and 120 female students from three ashram schools of tribal areas was selected for the study. Culture Fair Intelligence Test (CFIT) and Draw-a-Man Test of Intelligence (DMTI) was administered for assessing learning abilities, the Achievement Values Anxiety Inventory (AVAI) and School Adjustment Inventory (SAI) was administered to assess the achievement

motivation and adjustment of the respondents respectively. Results revealed that the students have the potential to excel in academics but their academic achievement is low. The study concluded that the role of gender in academic performance is limited.

**Larijani, M., and Birjandi, M., (2013)** conducted a study that studied the environmental education priorities of nomads. Statistical population included the migratory tribes of Tehran and the sample of 200 respondents was randomly selected. Pearson correlation coefficient between environmental education and nomadic pattern of life (a lifestyle based on livestock and pasture) was found to be significant. The results reveal that the most important items requiring and priorities environmental education in ecosystems belonged to reducing the use of vegetable oil fuels (with a mean of 3.72%), correct and safe migration (with a mean of 3.70%), renewable energies (with a mean of 3.67), and grazing the pastures (with a mean of 3.66)

**Puhan, R. R., et al., (2013)** this study examined the existing conditions and obstacles confronted by tribal women's in the path of their education. Also, it tried to find out the role of government and community to eradicate these obstacles. A sample of four hundred government teachers and eighty tribal woman's parents were selected. The findings of the study revealed that higher class families have positive perception towards education. Whereas negative perception of the families was due to lack of proper school environment, need-based curriculum, women teacher and financial problem, severe scarcity of human resource and physical infrastructure for girls' education.

**Rao, D. P., (2013)** studied the socioeconomic status of the scheduled tribes in Visakhapatnam district of Andhra Pradesh (India). The sample of the study comprises the of the Konda Dora tribe. Findings reveal that the majority of the sample households were illiterate. Cultivation is the primary occupation participated by the most heads of the sample households. More than 53 per cent of the cultivators have farm income around Rs. 2,000.00 to Rs. 5,000.00. Even though the wage labourers are more in the sample population, the share of income derived from that is less when compared to cultivation.

**Sahu, J., (2013)** studied the academic achievement of tribal children of Odisha. The descriptive type methodology was used for this study. It is based on a qualitative research that includes an observation method, document analysis; and in-depth

personal interviews. The study discloses that most of the tribal children are deprived of school education due to inadequate government teacher's availability, poor infrastructure, poverty and lack of interest in educating their children.

**Ravindranad, M., and Naik, B. R., (2014)** studied the socio-economic profiles of migrant tribal families in Tirupati town. 30 men and 30 women were randomly selected for the study. Case study and interview method were utilized for the collection of data. The findings of the study revealed that the majority of the respondents belonged to poor socio- economic status, most of them are illiterate, and most of them are denied to facilities like shelter, health facilities and education.

**Vikram, C. B., and Prahallada, N. N., (2014)** the researcher intends to find out the level of academic achievement among tribal secondary school students of rural and urban areas of Chamarajanagar district. The study also tried to find out the significant difference with respect to gender and the medium of instruction. The study reveals that 63% of the tribal secondary school students have a medium level of academic achievement, while 20% showed high level of academic achievement and 17% showed low level of academic achievement. It also reveals that there is no significant difference in academic achievement of tribal secondary school students with respect to gender and the medium of instruction.

*The next sub-section constitutes of research studies that show relationship between school achievement and intelligence.*

### 2.3. Studies related to school achievement and intelligence.

**Dutt, et al., (1972)** performed a factorial analysis of intelligence, academic achievement and some personality traits. The study aimed to find out the relationship between personality traits and intelligence. Standardized tools of Jankin's non-verbal group test of intelligence, standardized by the CIE, Dr. Sen's Personality Trait Inventory standardized on Indian population and for academic achievement composite scores awarded to the subjects during the previous annual promotional examination were used as an index of the academic achievement. Major findings of the study reveal that the intelligence and academic achievement are highly correlated.

**Kellaghan, T., (1973)** studied intelligence and achievement in a disadvantage population. A test of intelligence (stanford-binet) and a test of achievement (preschool inventory) was administered on children attending a preschool in a disadvantaged area when they were three years old and again when they were five (N : 59). Cross-lagged panel correlations between test performances were positive and substantial, but did not differ significantly from each other. The findings do not provide evidence of preponderance in causality, one way or the other in the relationship between intelligence and achievement.

**Sween, (1984)** studied the relationship between academic achievement of high school students with instructional design, intelligence, self-concept and need-achievement. Jalota General Mental Ability Test (1972) for measuring intelligence, The Mehta Achievement Value and Anxiety Inventory (1969), Deo Personality Word List (1973) was the tools used for the collection of the data. The major findings of the study reveal that highly intelligent students scored significantly better than low intelligent students. Students with high self-concept achieved significantly higher scores than those with a low self-concept. High achievement motivated students gained significantly more than low achievement or intelligence motivated students.

**Karile, Harnek—Singh., (1988)** studied intelligence and creativity as the predictors of scholastic achievement. The sample comprised 712 students of 10<sup>th</sup> standard selected by multistage stratified randomization. The tools used for collection of data were Jalota and Singh's group test of general mental ability,--Torrance's test of creative thinking, verbal form 'A', and Kuppuswamy's SES scale from 'B', and for achievement marks obtained in matriculation examination were taken as school

achievement. The results revealed that intelligence and creativity predicted scholastic achievement. The factor structure underlying the measure of intelligence and scholastic achievement did not vary significantly at different SES levels.

**Madhuri, S., (1988)** attempted to analyse various factors related to academic achievement. The sample of 1200 students of class 12<sup>th</sup> from different streams served as a sample. The tools used for the collection of data included, verbal, non-verbal, mixed type group test of intelligence by P. N. Melhrotra, SES scale (Hindi by S.P Kulsheastha) and marks obtained in U.P Board Examination. The findings reveal that intelligence and SES was positively correlated with scholastic achievement in all the six streams.

**Shamshad, M., (1988)** conducted a comparative study between boys and girls with regard to intelligence, neuroticism, scholastic achievement and need achievement. A total number of 1008 students with equal number of boys and girls were drawn from four districts of Kashmir valley. The findings revealed that the girls were superior to boys in intelligence and scholastic achievement while as the boys had a higher score in achievement motivation. High intelligence boys and girls were high in scholastic achievement, need achievement. Also low intelligence boys were found to score higher in n- Achievement as compared to low intelligence girls.

**Manju, S., (1989)** compared English achievement with intelligence, SES, at the high school stage. The sample comprised of 908 students of 10<sup>th</sup> class. The tools used include a check list achievement test in English, SES scale, mental ability test by A.C. Joshi. The results revealed that students who secured high in achievement test also possess high SES and intelligence, while as low scoring students secured low scores on all the tests. English achievement of boys and girls was influenced by intelligence, interest, SES and there was a positive intra-relationship between English achievement, intelligence, interest, SES and facilities.

**Rajeev, K., (1989)** studied children's curiosity, intelligence and achievement. The study aimed to find out the relationship between curiosity-intelligence, curiosity-scholastic achievement, intelligence-scholastic achievement and to find out the difference in the scholastic achievement among students with Urban, Rural background. 1024 students of 10-12 years of age group from Aligarh district composed the sample. R. K Tandon's general intelligence test and marks of previous

year examination were taken as the measure of scholastic achievement. The findings reveal that the distribution of curiosity, intelligence and scholastic achievement scores were normal. The correlation between intelligence and scholastic achievement was found to be significant. There was no difference in scholastic achievement of rural and urban students.

**Chadha, N. K., and Sunanda, C., (1990)** attempted to find out the partial correlation between creativity, intelligence and scholastic achievement. The sample of this study comprised a total of 79 students covering 42 boys and 37 girls of 11<sup>th</sup> grade from Delhi administered schools. Torrance test of creative thinking and Ravens Advanced Progressive Matrices were used for collecting the data. The conclusions revealed that positive and significant correlation was found between scholastic achievement and intelligence.

**Shah, J. H., (1990)** obtained the relationship between intelligence, and academic achievement of class X semi-urban and rural areas of Sihore taluka. A total of 500 pupils selected by stratified random cluster sampling method Desai-Bhatt Group Intelligence test and the marks obtained in academic subjects at secondary education board were taken as academic achievement. The conclusions revealed that there was a positive and linear correlation between IQ and academic achievement in both types and intelligence was more related to academic achievement than other variables of the study.

**Thilagavathi, T., (1990)** examined the relationship of academic achievement to intelligence, creativity and anxiety. The main aim of the study was to find out the relationship between academic achievement and intelligence and to find out intelligence of high average and low achievers. The sample comprised of 400 students of 11<sup>th</sup> class selected from twenty higher secondary schools of Kaniyakumari. Ahujas Group test of intelligence was used for measurement of intelligence. The findings reveal that out of 400 subjects of the sample 19.25% were high achievers, 60.75 % were average achievers and 20% were low achievers and they differ significantly among themselves in their intelligence. The high achievers secured higher than the other two groups.

**Ujwala, D. A., (1990)** examined pupils academic achievement in relation to their intelligence, neuroticism and locus of control. The total number of 495 students of



standard 9<sup>th</sup> was selected by random sampling from ten English medium schools from Chidambaram district of Tamil Nadu. The findings revealed that girls outshine boys in academic achievement. No significant difference was found in intelligence level of boys and girls and academic achievement showed appositive and significant correlation with intelligence.

**Sahay, N., (1991)** studied the relationship between parental variables and scholastic achievement of rural Hindu schools. The study aimed to find relationship between intelligence and academic achievement. A sample comprising 300 school students of I, VI and XI grade were selected randomly from rural schools of Lahordaga district. The tools used include Portes maze test of intelligence and scholastic achievement test. The findings revealed that the interaction between level of education and intelligence were statistically significant and parental support was the most powerful correlate of academic achievement.

**Arora, (1992)** studied the interactional effect of creativity and intelligence on emotional stability and academic achievement. A total no of 70 students studying in 12<sup>th</sup> class was chosen from four intermediate colleges of Aligarh through random sampling technique. The Mixed type group test of intelligence of P.N. Mehrotra was used to measure the intelligence and the marks secured in the high school examination of the Utter Pradesh board of secondary education was tallied as school achievement. The major findings revealed that all the high intelligence groups possess high school achievement and were also better than the lower intelligent groups.

**Garg, V. P., and Seema, C., (1992)** attempted to measure the correlation of intelligence and SES with academic performance. The objectives of the study were, to measure the intelligence and academic achievement among rural and urban higher secondary students and to obtain the relationship of IQ and SES with academic performance. Samples of 535 students from sixteen higher secondary schools in Bhopal city were randomly selected. The major findings of the study reveal that, both rural and urban students showed a linear relationship between IQ and academic achievement. Academic achievement is related to SES in both cases and rural students had higher mean of IQ scores than urban students while as the mean academic scores of rural students was lower than that of urban students.

**Kalyani, K. S., and Krishna, O. R., (2002)** studied the association of socio-economic status and intelligence among the tribal Ashram school students. 180 students from six ashram schools of Guntur and Ranga Reddy districts of Andhra Pradesh served as a sample. Raven's Coloured and Progressive Matrices, was utilized for the measurement of intelligence. General information schedule was used to gather information regarding socio- economic status. The findings revealed that tribal students are low in their socio-economic status and in intellectual abilities, and there was a significant association between intelligence and socio-economic factors. 54% of the tribal children were below average, and 29 per cent of the children had an average I.Q. The study thrusts to improve the socio-economic factors of tribal children, which can enhance their all-round development.

**Imtisunga, (2003)** compared intelligence, and motivation of high school students with scholastic achievement. The objectives of the study aimed to examine and classify the intelligence of the students; to investigate the scores of students in achievement motivation scale; to compare and identify over, normal and underachievers; to study the impact of IQ as well as achievement motivation on the academic success and to identify other factors of academic barriers. Tools used: (a) Standard Progressive Matrices standardized by J.C. Raven. (b) Achievement Motivation Scale prepared by Deo Mohan. Major findings of the study reveal that the scores of correlation co-efficient were positive in all cases, but not high; the correlation co-efficient between all variables were very low; some students with high IQ's and achievement motivation could score high academic marks and found as overachievers; The students have got an ability to do but could not do as expected due to some academic barriers and obstacles.

**Colom, R., Mendoza, C., (2006)** explored whether or not intelligence tests' scores predict individual differences in scholastic achievement irrespective of SES factors. The variables of interest are analysed considering three independent samples of participants comprising a total of 641 children. The participants belonged to a Brazilian school characterized by broad and representative ranges in intelligence, scholastic achievement, and SES factors. The results indicate that SES factors do not predict child's differences in scholastic achievement, whereas children's intelligence tests' scores predict their scholastic differences. These results emphasize personal intelligence as a genuine predictor of individual differences in scholastic achievement.

**Spinath, B., et al., (2006)** examined the contribution of motivation in predicting the school achievement of elementary school children beyond general mental ability (g). The sample for the study consisted of N = 1678 nine-year-old UK elementary school children who took part in the Twins Early Development Study (TEDS). Teachers provided achievement assessments according to the UK National Curriculum criteria for Mathematics, English, and Science, and pupils reported their ability self-perceptions and intrinsic values for these subjects. For all three domains, g proved to be the strongest, and in the case of Science, the only predictor of school achievement. However, in Mathematics and English, children's ability self-perceptions as well as intrinsic values each contributed incrementally to the prediction of achievement beyond g, with ability self-perceptions being a better predictor than intrinsic values. The commonality analyses revealed a substantial portion of common variance in school achievement explained both by g and motivation.

**Ian, J. D., et al., (2007)** undertook a 5-year longitudinal study of 70,000+ English children. In this study the association between psychometric intelligence at age 11 years and educational achievement in national examinations in 25 academic subjects at age 16 were examined. The correlation between a latent intelligence trait (Spearman's g from CAT2E) and a latent trait of educational achievement (GCSE scores) was 0.81. General intelligence contributed to success in all 25 subjects.

**Laidra, K. et al., (2007)** studied the general intelligence and personality traits from the Five- factor model as the predictors of academic achievement in a large sample of 3618 students covering 1746 boys and 1872 girls of Estonian school children's from elementary to secondary school. Intelligence measured by Ravens Standard Progressive Matrices, was found the best predictor of student's grade point average (GPA). The regression model revealed that intelligence was the strongest predictor of GPA, followed by agreeableness. Interactions between predictor variable and age accounted for only a small percentage of variance in GPA, suggesting that academic achievement relies basically on the same mechanisms through the school year.

**Strenze, T., (2007)** conducted a meta-analysis of the longitudinal studies that have investigated intelligence as predictor of success. In order to better evaluate the predictive power of intelligence, the paper also includes meta-analyses of parental socio-economic status (SES) and academic performance (school grades) as predictors of success. The results demonstrate that intelligence is a powerful predictor of success

but, on the whole, not an overwhelming better predictor than parental SES. Moderator analysis showed that the relationship between intelligence and success is dependent on the age of the sample.

**Panday, and Ahmad, (2008)** conducted a study on 621 students of class 11<sup>th</sup>, to see the difference between male and female adolescents on academic performance, achievement motivation, intelligence and SES. They found that there is no significant difference between male and female adolescents on the measure of intelligence. Moreover, male and female adolescents do not differ on the measures of SES.

**Mehmet Akif Ersoy University in Burdur, (2009)** studied the relationship between multiple intelligences and academic achievements of second grade students. Survey method was used to draw 250 students from secondary schools of Izmir, Turkey comprises of 135 girls (%53.6) and 117 boys (46.4%). A scale of Multiple Intelligence for Students (MISFS) developed by Selcioglu was utilized to measure the intelligence of the respondents. Students' first semester accumulative grades were taken as criteria for academic achievement. The results of the study reveal that gender is found to be effective on multiple intelligences. Girls have higher scores than boys on the verbal-linguistic ability and the musical ability. Males rated themselves higher on overall, mathematical, spatial, intrapersonal, spiritual and naturalistic IQ compared with females. It is found that the students who have lower academic achievement level, have lower verbal-lingual ability, have lower logical-mathematical ability and have lower interpersonal and intrapersonal ability than the others.

**Naderi, H., et al., (2009)** examined the prediction of intelligence, creativity and gender in academic achievement among the undergraduate students. A multiple regression analysis indicated that intelligence, creativity and gender explained 0.045 of the variance in academic achievement, which is not significant, as indicated by the F- value of 2.334. Multiple regression analyses also indicated that intelligence and creativity (gender is controlled) together explained 0.010 of the variance in academic achievement, which is also not significant, as indicated by the F- value of 1.562. Partial correlations between academic achievement and IQ, creativity scores and gender were not significant at 0.05. Coefficients also showed there is no significance between academic achievement and IQ and gender at 0.05, except for creativity ( $t=2.008$ ,  $P=0.046$ ). Finding shows predicting lower independent variables of this study (scores of intelligence, creativity and gender) on academic achievement (CGPA).

**Habibollah. N. et al., (2010)** examined the relationship between intelligence and academic achievement. 153 Iranian undergraduate students of Malaysian universities (31.4% females and 68.6% males) were selected as respondents. Catell Culture Fair Intelligence Test (CFIT-3 A. & B.) was utilized for measuring intelligence. Cumulative Grade Point Average (CGPA) was used as a proxy of academic achievement. The findings reveal that no significant relation existed between males and females regarding intelligence, and intelligence was not related to academic achievement for both genders.

**Patel, D., (2010)** examined the correlation between intelligence and academic achievement of students in relation to their gender, habitat, type of schools and SES. A total of 720 students of 7<sup>th</sup> standard were selected randomly from various schools of Sabarkantha district. The product movement correlation technique was used to find out the correlation between intelligence and academic achievement. The results reveal that there exists a positive and a significant correlation between the academic achievement and intelligence of urban-rural, government-private, male-female groups.

**Agnihotri, A. K., (2012)** Studied the correlation between academic achievement, intelligence & SES. Verbal test of intelligence of Dr. R. K. Ojha and K. Ray Chowdhury (9<sup>th</sup> to 12<sup>th</sup> class students), SES scale developed by Dr. Meenakshi for 8<sup>th</sup> to 12<sup>th</sup> class students was used for data collection. The academic achievement of students was procured from the school records. The findings of the study revealed that there is strong positive and significant relationship between academic achievement and SES, academic achievement and intelligence of both genders.

**Mudasir, H., and Yatu, D. S., (2012)** carried out a study to find out the intelligence and academic achievement of Kashmiri and Tibetan students. Mehratra's mixed type group test of intelligence was administered to a sample of 120 students and the aggregate percentage of marks of students was considered as a measure of academic achievement. Mean, S.D and t-test was used for the analysis of the data. The results of the study disclose that, Tibetan students were more intelligent than Kashmiri students; Tibetan students showed better academic achievement than Kashmiri students, gender wise Tibetan students were intelligence than Kashmiri students.

*The next section maintains studies related to school achievement and socio-economic status.*

#### **2.4. Studies related to school achievement and socio-economic status:**

**Chopra, S. L., (1982)** explored some non-intellectual correlates of academic achievement. Raven's Advanced Progressive Matrices Test, for intelligence, Kulshreshtha's Socio-economic status scale for SES, and an adaptation of Bell adjustment inventory to assess student's adjustment was used for collecting the data. The findings of the study reveal that socio-economic background was a very important determinant for continuation of education. Parents from higher socio-economic classes help and encourage their children in studies. Students from higher socio-economic classes had higher educational and occupational aspirations. It was also observed that a larger number of students from higher socio-economic classes did some planning for a future career in life.

**Vineeta, T., (1988)** conducted a study to find out the relationship of parental attitude, socio-economic background and the feeling of security with their academic achievement among intermediate students of Lucknow city. The sample was drawn from eleven girl's institutes. Kuppuswamy's scale for SES, Jalota's general mental ability and marks obtained by the students were considered as academic achievement scores. The results reveal that a significant relationship was found between socio-economic status and academic achievement. Students of upper SES showed better achievement than the lowest SES group.

**Kareem, (1991)** conducted a study to find out the developmental implications with special reference to Indian Muslims. A total of 200 respondents drawn from 5 districts were taken as the sample for the study. A significant and positive relationship was found between school achievement and socio-economic status.

**Maqsud, and Rouhani, (1991)** explored the relationship between SES and academic achievement of secondary school pupil in the Mmabatho of pophuthalswana (Southern Africa). It was found that SES was significantly and positively related to academic achievement in english and mathematics. The achievement of male students was significantly higher than females.

**Muthumanickam, R. R., (1992)** presented the relationship of academic achievement with SES. The sample for this study comprised of 195 boys and 182 girls making a total of 377 belonging to eight urban and six rural higher secondary schools selected

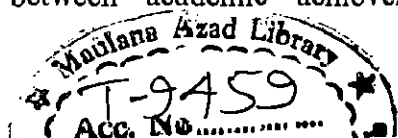
by random sampling technique. The tools utilized for the data collection were Kuppuswamy and Pillia's intelligence test, SES scale prepared by the investigator. The results reveal that the boys and girls did not differ in their achievement. Sex difference has no influence on achievement.

**Radha, R., (1992)** conducted a study of some personality variables in relation to their achievement and behaviour. The aim of the study was, to find out the relationship between SES and academic achievement, academic achievement and achievement motivation and to find out the significance of difference in academic achievement, academic motivation based on SES. The sample included 500 boys and girls obtained through the random purposive sampling technique. The tools used were SES scale by R. L. Bharadwaj, Academic motivation test D. G. Rao, Group Test of General Intelligence of S. S. Jalota and marks obtained in the high school examination. The findings exposed that, the girls outshine boys in achievement motivation; female sample reveal a significant relationship between SES and academic achievements while this relationship was negative and significant for boys. Significant and positive relationship was shown by all the groups between academic achievement and academic motivation. SES had a direct influence on academic achievement and SES, intelligence, and achievement motivation was the variables that contribute positively to academic achievement in all the groups.

**Jersey, (1997)** studied the family influence on educational expectation of adolescents. The results reveal that SES categories were progressively larger towards lower and higher level of educational expectations and smaller at the bachelor's degree level. At the lowest level of SES, parent's involvement predicted educational expectations more strongly

**Nkinyangi, J. A., (1997)** this study attempted to provide a theoretical framework to explain the causes of high primary school repetition and dropouts in representative regions of Kenya. It is argued that a socio-economic disadvantage is the equivalent of an educational disadvantage, which in turn may productive of poor school performance, repetition, disinterest, and even to school withdrawal.

**Mishra, B. B., (1997)** investigated some correlates of academic achievement of high school students in India. The objectives of the study were: to study, the relationship between academic achievement and intelligence, socio-economic status and



personality factors, in the case of high school boys and girls and to establish a regression equation, for predicting the academic achievement of high school boys and girls, separately, on the basis of their intelligence, socio-economic status and personality factors. Tools used were Standard Progressive Matrices by J.C. Ravens (1960), Socio-economic Status Scale by B. Kuppuswamy (1962) and Personality Inventory by R.G. Bernreuter (1938). Major findings of the study revealed that Intelligence is significantly correlated with academic achievement, for both boys and girls. The correlation between intelligence and academic achievement is higher in case of girls than that of boys. The socio-economic status is not significantly related to the academic achievement of boys and girls

**Kean, D., and Pamela, E., (1999)** studied the effect of socio-economic characteristics on parenting and child outcomes. The sample is comprised of 974 children (48% male, 52% female) of age 8-12 years. The composition of sample comprised of 46% Caucasian, 42% African-American, and 12% other ethnic/racial children. The study focuses on two questionnaires, the primary caregiver interview regarding the child and the child interview, which contains the standardized achievement test and self-concept inventory. The parent and family measures used in this study were the education of the parents, family income, and number of children in the family under 18 years of age, and the employment status of the parents. For the measurement of child outcomes, the Woodcock-Johnson-Revised test of achievement was used as the measure for math and reading. The Eccles task and value perception of ability inventory were used to measure self-concept of math and reading ability. The behaviour problems index developed by Peterson and Zill 1986 was used to measure behavioural problems in children. The data were analysed using four hierarchical regressions. The study illustrates that socio-economic status, child characteristics, and parent's expectations are important constructs in modelling academic achievement in children.

**Khallad, (2000)** studied educational and career aspiration of the Palestinian and U. S. youth. The study aimed to observe the influence of gender, SES, family support, parental expectations and cultural values on the aspiration. 156 U. S. and 193 Palestinian 10<sup>th</sup> class students served as the sample for the study. The results reveal that the male and female participants perceived equal level of family support for their



education and career plan. SES was positively related to the level of participants' educational aspiration.

**Davis-Kean, (2005)** examined how SES affects children's achievement, especially the effects of family income and parental education. Using a national cross-sectional design, including 8-12 year-old African American and European American children, the study examined three parenting variables: expectation, reading to children, and the warmth in interactions. The results for the African American group were consistent with the study hypothesis; parent's education and income were positively associated with achievement. However, the finding of the European American group was different in that parent education was a much stronger predictor of children's achievement than family income.

**Ali, S., et al., (2006)** conducted a study on the rural Appalachian high school students, aimed to study the relationship between postsecondary aspiration and vocational/educational self-efficiency beliefs and the perceived educational barriers. The results indicate that vocational/educational self-efficacy belief, college outcome expectations, likelihood of encountering barriers to postsecondary education, and SES contributes significantly to the discriminate function predicting the post-secondary pathway.

**Bohon, et al., (2006)** studied college aspiration and expectation among Latino adolescents USA. The study aimed to compare Cuban; Puerto Rican and Mexican adolescents desire to attend college and their perceived likelihood of attending college with those of non-Latino White and Black adolescents. The major findings of the study reveal that the strength of college aspiration and expectation is high among all the groups, but differences across groups are due to SES.

**Mullah, M. A., et al., (2007)** studied the socioeconomic characteristics of tribal people in Rangamati Sadar Thana. A randomly selected sample of 200 households served as the sample size of the study. On the basis of data the study disclosed that most of the tribal people speak in Tibeto-Burman tongues. The tribal people are lagging behind the mainstream population with respect to economic, political, social and technological standings and still going on with outmoded lifestyle and ideology.

**Grigoriev, A., and Lynn, R., (2009)** this paper reviewed the studies of socioeconomic and ethnic/racial differences in intelligence carried out in Russia/USSR during the late 1920s and early 1930s. In these studies the IQs of social classes and of ethnic minorities were tested. These included Tatars (a Caucasoid people), Chuvash and Altai (mixed Caucasoid–Mongoloid peoples), Evenk (a mixed Caucasoid–Arctic people), and Uzbeks (a Central–South Asian people). The results of these studies showed socioeconomic differences of 12 IQ points between the children of white collar and blue collar workers, and that with the exception of the Tatars the ethnic minorities obtained lower IQs than European Russians.

**Randall, and Bohnert, (2009)** studied the educational pathways of minority youth in relation to gender, ethnicity and social class. The objectives of the study were to describe how gender, ethnic and social class identities and position that influences young people's educational aspiration. The results reveal that young people from immigrant backgrounds are increasingly entering, and complete higher education as compared with non-immigrant youth of the same SES. In lower secondary schools, minority youths tend to have markedly high educational aspiration and stronger learning motivation than their majority peers from the same socioeconomic background.

**Frederickson, N., and Petrides, K. V., (2008)** undertook a longitudinal analysis to examine gender, socio-economic (SES), and ethnic group differences in academic performance (measured at 14 and 16 years) in a sample of 517 British pupils (mean age = 16.5 years). The results of the study reveal that White pupils performed better than their Black and Pakistani counterparts also pupils from high SES consistently outperformed their low SES counterparts. Results from two Multiple Indicators Multiple Causes (MIMIC) models showed that after controlling IQ variance these group differences minimize. The MIMIC models also revealed that once IQ and SES have been partialled out, Pakistani pupils and girls tend to underperform academically relative to White pupils and boys, at 14 years of age group.

**Lacour, M., and Tissington, L. D., (2011)** studied the effect of poverty on academic achievement. The study revealed that Poverty directly affects academic achievement due to the lack of resources available for student success. Low achievement is closely correlated with lack of resources, and numerous studies have documented the

correlation between low socioeconomic status and low achievement. The factors affecting student achievement include income, source of income, and the mother's education level. Although many poor students score below average on assessment measures, instructional techniques and strategies implemented in the classroom, school, district, and government levels can help close the achievement gap by providing students with necessary assistance in order to achieve high performance in academics.

**Ahmad, I. and Khan, N. (2012)** studied the relationship between socio-economic conditions of the parents and academic achievements of students at government schools for boys of District Dir, Timergara Pakistan. Structured questionnaire was used for gathering the required information. A random sample of 69 students was selected from 16 boys' secondary schools, which had passed the secondary examination of the Board of Intermediate and Secondary Education Malakand. The findings showed a significant relationship between parental socio-economic conditions and academic achievements of the children in secondary examination

**Juma, L. S. A., et al., (2012)** analysed the impact of family socio-economic status on the academic achievement of secondary schools girl students' of Kenya. A sample of 300 girl students was selected by random sampling technique. Data collection instruments included questionnaire, interview schedule and document analysis guide. The results reveal that Family socio-economic status affects children's education. The girl students' from high family income performed better than from those from low income families. The study concluded that family income, parental level of education, birth order and family size influenced the academic achievement of girls in secondary schools.

**Kilpatric, Q. K., (2012)** studied the relationship between a school district's SES structure, school organization, and academic achievement. This study uses data from the 2007-2009 American Community Survey and the Ohio Department of Education to help explain between-district differences in standardized test proficiency. The results find that race and the concentration of family poverty are the most significant predictors of educational achievement. Students classified as economically disadvantaged have substantially higher proficiency levels in wealthier districts, compared to disadvantaged students attending poorer schools, and this gap is wider

between third and seventh grade test takers, suggesting a reinforced disadvantage or a “disadvantaged student achievement gap”.

**Kumar, A., et al., (2012)** explored the difference between tribal and non-tribal population in terms of the dynamic relationship between education, standard of living, media exposure, contraceptive use, and reproductive behaviour. The data used for this study was obtained from National Family Health Survey-2 (NFHS-2) which collected information from 46,243 households and 45,151 over-married women age 15-49 belong to these households. The analysis was based on the interviews conducted by the researcher on the secondary data obtained by NFHS-2 with 45,151 eligible women who consist of 3931 tribal, 41,220 non-tribal women aged 15-49 years. The study revealed that tribal women contribute to economic activities compared to non-tribal women, a higher proportion of them are not paid for the work they do. The age of marriage is lower than non-tribal women. A large majority of women, particularly tribal women get married before reaching the legal minimum marriage age. The use of family methods is low among tribal women, although almost all women know at least one method of contraception.

**Olatunji, A. E., and Olah M. O., (2012)** studied the socio-economic status of artisanal fishers in the state of Nigeria. In this study the status of artisanal fishery in the Cross River State, Nigeria was studied between 2010 and 2011. Data related to socio-economic indices of the fisher-folks were obtained through structured questionnaire and in-depth guided interviews and were subjected to descriptive statistical analysis and the multiple regression analysis. The data analyses revealed that fishing was mostly the profession of the young persons and that the educational level of fisher folks was high in the area. The results reveal that almost average (91.7%) of the fisher-folks were males while 42.50% were in the active age distribution of 31- 40 years, no formal education (11.7%) while 25.0% are in the bracket of 11-15 year fishing experiences. Constraints faced by artisanal fisher folks include high cost of netting and canoe, poor processing facilities, poor extension services to educate the farmers, poor weather condition, access road in accessible credits and high cost of fishing inputs.

**Qaiser—Suleman, et al., (2012)** investigated the effects of parental socioeconomic status on the academic achievement of secondary school students in District Karak

(Khyber Pakhtunkhwa) Pakistan. The study aimed to find out the effect of parental socioeconomic status, educational level, and occupational level on the academic achievement of secondary school students and to suggest workable recommendations for the enhancement of the students' academic achievement. 1500 secondary school students were selected randomly at the rate of 25 students from each school. The study was survey type and self-developed questionnaire was utilized for the collection of data. The results reveal that parental socio-economic status, educational level, occupational level; and income level affect the academic achievement of students at secondary level

**Shah, M., et al., (2012)** studied the relationship between Socio-Economic Status (SES) of the family and academic achievements of their family members. They also investigate the impact of SES on the academic achievements of the children. For this study, eight colleges and two Higher Secondary Schools were selected from D I Khan District (Pakistan). A sample of 20 students was selected from each college and school. Rank correlation and Chi Square test have been used to test the hypothesis. The findings show positive and strong correlation between SES and academic achievements of the children.

**Ahmeer, F., and Anwar, E., (2013)** examined the effects of gender and socio-economic status on the academic achievement of higher secondary students of Lucknow city. A total of 102 males and 98 females in the age range of 15 to 19 from five higher secondary schools constituted the sample of the study. Socio economic status scale developed by R. L. Bharadwaj, (2005) was used for data collection, and the total mark obtained by the students in the previous class i.e. Standard X was used as an achievement criteria. Mean (M), Standard Deviation (S.D), Standard Error of the mean (S.E.M), t-test were used. The results of the study revealed that gender does not influence the achievement in science at higher secondary school (Standard -XI) level. Also it is found that the academic achievement was influenced by the socio-economic status and those who were from high socio-economic status showed better performance.

**Chandra, R., and Azimuddin, S., (2013)** examined the influence of different categories of SES of students on their academic achievement. The study also examines the relationship between SES and Academic achievement of 14 Secondary

school students of Lucknow city of Uttar Pradesh (India) The age range varies from 13 years to 17 years. The sample of the study comprised of 614 students (358 males and 256 females) from classes IX and X. The Socio Economic Status scale developed by Dr. Meenakshi (2004) is used for collection of data. The board results of class IX and X are used for assessment of academic achievement. The statistical measures like t-test and Karl Pearson's correlation coefficient is used. The result of the study reveals the difference between high, average and low SES groups and their academic achievement. A positive correlation is observed between SES and Academic achievement.

**Kumar, R., *et al.*, (2013)** investigated the socio-economic status of scheduled tribes in Vizianagaram District of Andhra Pradesh state. The multi-stage random sampling technique was employed for the study; primary data were used with the help of pre-structured questionnaire. The results were interpreted with the help of tabular analysis. The results reveal that, more than 94 per cent of the sample households are male headed, 83 per cent of the heads of the sample households are agricultural labour, as majority respondents opined that it was a major source of income and as significant for livelihood in the study area. The study indicates there was a decline in sex ratio in this community, farming was the primary occupation which contributes to more than 80 per cent of the sample households, and their income range was Rs.6000 to Rs.10000 rupees per annum followed by wage labour.

**Yadav, M., (2013)** conducted a comparative study of academic achievement and SES of high school students of Ajmer district. A sample of 200 students comprising 100 male and 100 female students, of the class IX<sup>th</sup> in different government and private high schools of rural and urban areas of Ajmer district. The annual exam result score of students was taken from the school record to measure the academic achievement, and Dr. Bena Shah SES scale was used to assess the socio-economic status of the students. The findings of present research revealed that there is a positive relationship between academic achievement and socio-economic status of high school students.

**Alade, O. M., *et al.*, (2014)** examined socio-economic status and gender as predictors of student's academic achievement in economics. The sample of the study consists of three hundred and fifty (350) randomly selected students from selected secondary schools in the Isheri local government area of Lagos State. The instrument used for

data collection was a self-developed questionnaire. The results of the data analysis discloses that there is significant relationship between parental educational attainment and students' academic achievement in Economics; There is prominent association between occupational background of parents and student's academic achievement; There is significant difference in the mean scores between socio-economic status and students' academic achievement due to gender and there is significant association between parental socio-economic status (SES) and academic achievement.

**Ewumi, A. M., (2014)** investigated gender and socio-economic status as correlates of students' academic achievement in senior secondary schools. Pearson product moment correlation coefficient was used to analyse the data. The participants were 108 students drawn from three senior secondary schools in Nigeria. Their ages ranged between 14 and 21 with a mean age of 17.1 years. Two validated instruments were used to elicit responses from the participants. Results revealed a significant negative relationship between gender and academic achievement ( $r = -0.260$ ;  $p < 0.05$ ), and no significant relationship between socio-economic status and academic achievement ( $r = 0.083$ ;  $p < 0.05$ )

*The next sub-section deals with school achievement and n-Achievement*

### **2.5. Studies related to school achievement and n-Achievement:**

**Sinha, N. C. P., (1970)** undertook a study to explore the exact relationship between need achievement and the academic achievement of school going children. Need achievement was measured by McClelland's test for need achievement. Major Findings of the study reveal that need-achievement, was significantly and positively correlated with academic attainment.

**Chaudhari, V. P. Jain., (1975)** studied various Factors contributing to academic underachievement. The major objectives of the study were: to make a critical study of the factors contributing to academic underachievement. P.S.M. General Intelligence Test (Marathi and Hindi), Sinha's Anxiety Scale, Adjustment Inventory (Saxena), Study Habit Inventory (Jamuar), Aronson's Graphic Expression Test, and Socio-Economic Status Scale (modified from- Kuppaswamy) were the tools used for data collection. The major findings of the study revealed that, study habits of achievers differed significantly from under-achievers. Achievement motivation of bright achievers was higher than that of bright under achievers. Dull achievers had the low achievement motivation than bright underachievers. The difference in mean score of need achievement of two groups was sharper in the case of boys than in girls. Achievers who had high levels of achievement motivation had minimum anxiety whereas dull achievers with low level of achievement had high levels of anxiety.

**Elias, H., and Long, A. B., (1984)** examined the performance of pupils in relation to a number of variables, namely achievement motivation, socio-economic status, intelligence, area of residence, school milieu and parental encouragement to assess the correlation between them. 90 pupils selected from 40 primary schools in Selangor and represented the Chinese, Malays and Indians served as the sample of the study. Individual interviews were conducted by the researcher. Subjects were asked to answer questionnaires, the Thematic Apperception Test, and the Raven's Progressive Matrices. The results showed that achievement motivation correlated highly with performance in the stated examination. The other variables which showed significant correlations with performance were socio-economic status, intelligence, school milieu and parental encouragement.

**Bhattacharyya, P., and Bhattacharyya, A., (1990)** conducted a cross sectional study on achievement motivation of secondary school students and its impact on their



school achievement. The objectives of the study were aimed to determine the sex-wise and strata-wise difference, if any, in need achievement and to find out the relationship between need achievement and school achievement especially of the pupils of some secondary schools in West Bengal. Prayag Mehta's achievement values and anxiety inventory (AVAI) was used as a measuring tool of achievement motivation. The finding of the study reveals that Need achievement was a better predictor of school achievement, and the test related scores had considerable impact on school performance.

**Reddy, (1990)** conducted a comparative study of some educational variables of students of private and government schools. A sample comprising of 1340 students' constituting 709 from government and 631 from private institutions of three districts of Karnataka state. Results revealed that achievement motivation had no significant relationship with academic achievement.

**Badhri, N., (1991)** tried to explore the causes for low achievement in government high schools in the Chenglapattu educational district. The objectives of the study aimed to find out reasons for low achievement, and to find out differences, if any, in the reasons for low achievement among boys and girls. Group test of intelligence and a study habit inventory were the tools used besides these tools school information blank and a Questionnaire's was also used. The major findings of the study identified low motivation, policy of liberal promotion to the next higher class, poor study-habits, lack of parental involvement in education & poor teaching as the causes of poor achievement.

**Baskaran, K., (1991)** studied the achievement motivation, attitude towards problem-solving and achievement in mathematics of standard X students in Devakotal district. The objectives of the study were: To identify the level of student's achievement motivation, attitude towards problem solving and achievement in mathematics. To identify the significant relationship, if any, between achievement-motivation and attitude towards problem solving and to find out the significant difference, if any, between boys and girls, between urban and rural students and government and aided school students in achievement motivation, attitude towards problem-solving and achievement in mathematics. Self-constructed tools for Achievement-Motivation, Attitude, and Achievement Test in Mathematics for 10<sup>th</sup> standard were used for data

collection. Correlation and t-test was used for analysing the data. Major findings explore that there was a significant relationship between achievement-motivation and achievement in mathematics and attitude towards problem solving. There was a positive relationship between the attitude towards problem solving and achievement in mathematics. It was also found that urban and rural students did not differ in their achievement-motivation and attitude towards mathematics.

**Koteshwara, N. M., (1991)** undertook a comparative study of the characteristics of high achievers and low achievers with special reference to school and home factors. The major findings of the study reveal that: Urban students had a higher achievement than the rural students. The girls had a higher achievement in comprehension than the boys but did not differ in vocabulary and composite reading abilities. Low scoring boys and girls did not differ in these reading abilities.

**Harikrishna, M., (1992)** examined academic achievement in relation to achievement motivation and socio-economic status of higher secondary students. A sample of 300 students was randomly selected. The results obtained revealed that girls obtained higher mean in achievement than boys. SES was significantly related to academic achievement and achievement was not related to achievement motivation.

**Rani, M., (1992)** studied locus of control, self-esteem, academic responsibility, academic motivation and scholastic achievement of advantaged and disadvantaged students. Academic motivation scale by Srivastava and Maheshwari & socio-economic status scale by Varma, E. Saxena was used for the collection of information. The major findings of the study reveal that advantaged and disadvantaged groups differed significantly with respect to their locus of control, self-esteem, academic responsibility, academic motivation and scholastic achievement. Advantaged girls as compared to the disadvantaged had better internal locus-of-control, and a better self-esteem.

**Ahmed, (1998)** studied achievement motivation differences among the adolescent male children and female children. A sample of 120 students of 13-18 years of Mumbai city was randomly chosen. The study uncovered no substantial difference in achievement motivation of the boys and young ladies.

**Petrick, and Kim, (1998)** studied parenting style, motivation orientation and self-perceived academic competence of high school pupils. A total of 404 students of 8<sup>th</sup> and 9<sup>th</sup> class served as a sample. The results exhibited a significant role of family in school achievement. Authoritative parenting had a positive significant relationship with educational success of pupils

**Hota, A. K., (1995)** conducted a study on socially backward secondary school students; the major objective of the study was to study the relationship between achievement motivation and academic achievement, and self-concept and achievement motivation. Tools used: were personality word list adopted in Oriya by P. Deo (1971), achievement motivation scale by A. Mohan (1971). The major findings revealed that achievement motivation; self-concept is positively related to academic achievement while self-concept is not related to achievement motive.

**Ellekkakumar, B., and Elankathirselvan, N., (2001)** studied the achievement motivation of higher secondary students and their achievement in Physics. The objectives of the study were: To assess the achievement motivation of higher secondary students in Physics and achievement in Physics. To find out whether there is any significant difference between mean scores and achievement scores of boys and girls and in Tamil medium and English medium and to find out the nature of the relationship between achievement motivation and achievement in Physics. The sample of 530 students studying Physics in the second year of higher secondary school, in Cuddalore district in Tamil Nadu students was selected, using probability sampling. Achievement Motivation Inventory (Prayag Mehta, 1969) was used for assessing achievement motivation, and marks obtained (Physics) in the previous examination was taken as a measure of achievement in physics. The findings of the study reveal that: The mean scores of achievement related motivation was higher in girls than in boys. The positive correlations were found between the achievement related motivation and achievement marks in Physics.

**Lau, K. T., and Chan, D. W., (2001)** explored the problem of under-achievement in Hong Kong. Underachievers were compared with over achievers and low achievers on their motivational characteristics. The findings generally supported that motivational variables were important factors in discriminating under-achievers and high achievers. It was found that under-achievers had poor academic achievement,

low attainment value in learning, and deficiencies in using effective learning strategies, than their counterparts.

**Joseph, M., (2004)** studied the relationship of achievement motivation and level of aspiration with achievement in social science. It was found that, achievement motivation and level of aspiration have a significant effect on academic achievement.

**Tsang, (2004)** studied academic motivation and academic achievement among students from immigrants and America born families. Data were gathered through survey method from 998 college students. The results reveal that immigrants put more importance on family interdependence than American born families. Family attitude contributed to greater academic motivation among youth from immigrants as compared to American born families.

**Sidhu, and Parminder, (2005)** carried out a comparative study of concept attainment model, advance organizer model and conventional method in the teaching of physics in relation to intelligence and achievement motivation of ninth grade students. A total of 240 students were selected as a sample from Sangrur district of Punjab. Achievement motivation test by Pratibha Deo and Asha Mohan were used for garnering the needed information. The results brought out that achievement motivation has no substantial effect on scholastic achievement and also, there was no relationship between intelligence and achievement motivation.

**Alam, M. M., (2006)** studied the relationship of socio-economic status, anxiety level and achievement motivation with academic achievement in Muslim and non-Muslim school children of Uttar Pradesh. The objectives of the study were: to study academic achievement and its relation to socio-economic status, achievement motivation, and to compare the data on academic achievement, socioeconomic status, anxiety level and achievement motivation between Muslim and non-Muslim school children. Socio-economic status scale by Dr. Beena Shah; comprehensive anxiety test by Dr. Harish Sharma, Dr. Rajeev Lochan Bhardwaj and Dr. Mahesh Bharagava (1992), achievement motivation scale by Dr. Beena Shah was administered for collection of the data. The data were tabulated and statistical treatment of the data was given using simple product moment coefficient of correlation, t-test, and skewness through the computer software. The major findings of the study reveal the significant and positive relationship between socio-economic status and academic achievement, negative

relationship exists between anxiety and academic achievement, positive relationship between achievement motivation and academic achievement. Both Muslim and non-Muslim children have a significant inverse relationship between socio-economic status and anxiety. Socio-economic status goes along with higher achievement motivation.

**Bansal, et al., (2006)** analysed the relationship between quality of home environment, locus of control and achievement motivation among high achiever urban female adolescents. 100 eleventh grade high achievers from 10 senior secondary schools of Ludhiana city were chosen as a sample. Bhargava achievement motivation scale and Mishra's home environment inventory scale were used for accumulation of data. The results reveal that good quality of home environment had significant and a positive relationship with high level of achievement motivation and high level of academic achievement.

**Halawah, I., (2006)** examined the effect of motivation, family environment, and student characteristics on academic achievement. A sample of 388 high school students from Abu Dhabi served as a sample for this work. A Likert-type scale to measure the students' level of motivation and students' average grade point were used to assess motivation and academic achievement respectively. Results explored a negligible but positive relationship between academic achievement and motivation (0.07). While as the relationship between academic achievement and family environment (0.15) and motivation and family environment (0.19) were statistically significant.

**Navarrete, et al., (2007)** carried out a study on culture and achievement motivation in Latino and Anglo American high school students of the USA. A sample of 149 students from the high school districts of California served as a sample. A culture value orientation and attribution-emotion scale were applied for gathering information. Average grade points were adopted as a criterion of academic achievement. The study revealed that socio economic status and parental education greatly influence academic achievement and achievement motivation of the students belonging to both the cultures.

**Tella, A., (2007)** investigated the impact of motivation on students' school achievement in mathematics in secondary schools. The collected data were analysed

by using t-test and analysis of variance (ANOVA). Results showed that gender difference were significant when the impact of motivation on academic achievement was compared with male and female students. Also other result indicates significant difference when extent of motivation was taken as a variable of interest in academic achievement in mathematics based on the degree of their motivation.

**Ahmad, *et al.*, (2008)** studied the effect of motivation on the academic achievement of aided and private higher secondary students. A total of 500 students of the higher secondary level were taken as a sample. The data were collected on the basis of motivation test by Sharma (1984) and academic achievement was taken as the percentage of class 10<sup>th</sup> marks obtained by students. The result suggests the motivation is significantly related to academic achievement of aided and private higher secondary students. This shows the motivation affects academic achievement of aided and private higher secondary students.

**Adsul, R. K., and Kamble, V., (2008)** examined the effect of gender, economic background and caste differences on achievement motivation of college students. An exploratory method of research was employed by adopting 2 X 3 X 4 factorial designs. The study was based on one hundred and ninety two undergraduate students of various colleges from Sangli city of Maharashtra, selected by adopting a random sampling procedure. Achievement motivation test (ACMT) developed by Bhargave was used to collect the data from the sample. 't-test', Duncan's multiple range test and three way ANOVA were adopted for the analysis of the data. The results disclose that there is a significant difference between scheduled caste and nomadic tribes, scheduled caste and other backward caste students and between male and female students. Forward caste and scheduled caste group and male students have a higher achievement motivation while other backward, nomadic tribes and female group students having an average level achievement motivation. The computed F ratio of interaction was found not significant which indicates that caste, gender and economic background of the family does not jointly effect on achievement motivation of college students.

**Ahmad, S., and Nigam, R. S., (2008)** Studied the effect of motivation on the academic achievement of aided and private higher secondary students, a sample of 500 students of the higher secondary level was taken. The data were collected on the

basis of motivation test by Sharma (1984) and academic achievement was taken as the percentage of marks obtained by students in class 10<sup>th</sup>. The result suggests that motivation is significantly related to academic achievement of aided and private higher secondary students.

**Acharya, and Shobhna, (2009)** studied the influence of parental education on achievement motivation of adolescents. A sample of 200 intermediate students belonging to the parents having four levels of education: high school, intermediate, graduation and post-graduation from Varanasi were selected. Doe-Mohan achievement motivation scale was used for accumulating the information. The result pointed out that parental education level influenced achievement motivation in academic area. The higher the degree of parental education better was the achievement motivation.

**Steinmayr, R, and Spinath, B. (2009)** examined motivational concepts that contributed to the prediction of school achievement among adolescent students independently from intelligence. A sample of 342 students of 11<sup>th</sup> and 12<sup>th</sup> grade (age  $M = 16.94$ ;  $SD = 0.71$ ) was selected as respondents. Students gave self-reports on domain-specific values, ability self-perceptions, goals, and achievement motives. Hierarchical regression and relative weights analyses were performed by grades in math and German as dependent variables and intelligence as well as motivational measures as independent variables. Beyond intelligence, different motivational constructs incrementally contributed to the prediction of school achievement. Domain-specific ability self-perceptions and values showed the highest increments whereas achievement motives and goal orientations explained less additional variance. Even when prior achievement was controlled, some motivational concepts still proved to contribute to the prediction of subsequent performance.

**Wang, and Xing, (2009)** examined the relationship between intelligence, achievement goals and academic achievement of rural adolescents. A sample of 448 6<sup>th</sup> and 7<sup>th</sup> grade students of China was selected randomly. The study disclosed that no significant relationship exists between achievement goals and academic achievement of the pupils. Intelligence also has no significant relationship with achievement goals.

**Wilkins, (2009)** carried out a longitudinal study to evaluate family processes promoting achievement motivation and perceived competence among Latino youth.

The sample of 15,362 Latino adolescents from immigrant families served as a sample. Data were collected by administering parental involvement in schooling scale by Steinberg and others to assess the degree parents assisted their child and achievement motivation scale created by the researcher himself. It was confirmed that parental involvement related significantly and positively to the processes of achievement motivation.

**Ghazi, et al., (2010)** studied the parental involvement in their children's academic motivation in rural areas at primary stage. A study was conducted on a sample of 250 students from Bannu in Pakistan. Data were collected by structured interview from students and their parents. It was found that parental encouragement, discussion regarding importance of education and educational affairs had a direct and positive influence on achievement motivation.

**Muola, (2010)** investigated the relationship between academic achievement motivation and home environment among 8<sup>th</sup> standard pupils. A total of 235 Kenyan pupils ranging between 13 to 17 years of age from six urban and rural primary schools were selected randomly from Machakos district served as a sample. Information was gathered through two questionnaires, the simple profile and home environment questionnaire to obtain info on the pupils' levels of academic motivation and home environment. The results indicated a positive relationship between academic achievement motivation and home environment.

**Bahago, (2011)** examined the influence of achievement motivation in relation to certain demographic characteristics on the academic performance of nomadic Fulani girls in Adamawa state. A sample of 300 girls was selected from nomadic primary schools. The results discovered a significant relationship between achievement motivation and academic achievement. Achievement motivation was found to be influenced by the parent's level of education. Pupils with high achievement motivation performed higher in academics.

**Manjuvani, and Anuradha, (2011)** compared the achievement motivation of the children in single parent and two parent families. The sample comprised of 186 students of both the sexes selected purposively for the study. Deo Mohan achievement motivation scale was used to gather the information. The findings of the study revealed that children of single parent families differed significantly in achievement



motivation from the children of two parent families. It was also reasoned out that parental expectations and guidance developed the need for eminent achievement.

**Boruah, J. L., (2012)** studied the achievement motivation of tribal students of Assam. The sample for the present study consisted of 300 tribal students. Pratibaha Deo and Asha Mohan's achievement motivation scale was used for the measurement of achievement motivation and the marks obtained by the students in HSLC examination conducted by SEBA in the year 2010-11 were taken as the measure of academic achievement. The data were analysed by employing Mean, SD, "t" value and F- value. The results revealed that male and female as well as urban and rural tribal students differ significantly with respect to their achievement motivation. There is a significant difference in the mean score of achievement motivation among students grouped on academic achievement status as high, average and low with high group showing a higher achievement motivation followed by average and low. The study confines sex and location of schools or residence are important factors that determine the achievement motivation of the tribal students towards their academic pursuits.

**Chandra, S., and Rachna, D., (2012)** studied the achievement motivation across gender. The study aimed to investigate the gender related differences and differences across academic majors on achievement motivation among college students. A sample of 80 undergraduate students comprising 40 male and 40 female from various colleges of Jammu region were selected by a purposive sampling method. Deo-Mohan achievement motivation scale and a self-made questionnaire were used for collecting the data. The findings reveal that a significant difference was found between the achievement motivation of sciences and arts stream students and achievement motivation among male and female college students. The differences indicate the significant role of gender and academic majors in achievement motivation of college students.

**Hornstra, et al., (2012)** conducted a longitudinal study to study the development of motivation and achievement during primary school with group-specific differences. The study focused on how different aspects of students' motivation, i.e., task-orientation, self-efficacy, and school investment develop from grade three to six of primary school and how these developments differ for boys and girls, and students with different ethnic or social backgrounds. Latent growth curve analyses were

performed. Results showed a negative development in task-orientation, self-efficacy remained relatively stable and school investment increased over time, but there were considerable differences in developments across different groups of students. Regardless of gender and background, however, developments in these aspects of motivation were substantially positively related to developments in achievement, beyond what can be explained by cognitive ability and background characteristics.

**Madhu, G., et al., (2012)** studied the effect of achievement motivation on the academic achievement of adolescents in relation to some demographic variables viz. gender, locality and type of schools. A total of 320 adolescent students selected by random sampling from the target population constituted the sample. Achievement Motive test by Dr. Bhargava was used to measure the achievement motivation and academic achievement of the students was determined on the basis of marks obtained in 10th class of board examination. Data analysis showed that there was a significant difference in academic achievement among adolescents with high and low level of achievement motivation in relation to gender, locality and type of schools, male & female adolescents with high achievement motivation showed better academic achievement than their counterparts. Further, results also showed that high achievement motivation adolescents of rural area and urban area as well as private and govt. Schools were found to be better on academic achievement than their corresponding parts.

**Baruah, M., and Devi, A., (2012)** examined the achievement motivation among tribal and non-tribal college students of Assam. The sample consisted of 240 college students, 120 tribal and 120 non-tribals, comprising of 60 males and 60 females. Thematic Apperception Test and a semi structured interview schedule were used to gather information. Results from TAT scores reveal significant differences among tribal and non-tribal cultures on achievement motivation. The tribes were found to have the lower achievement motivation as compared to non-tribal students. Further the study yielded an interesting finding that tribal females are high achievers as compared to males, whereas among non-tribals males are high achievers. Discriminant analysis results depicts n-Achievement as the potent factor which has the highest weight (0.811) that resulted in determining the competence and skill of the non-tribal students over the tribal students.

**Onete, et al., (2012)** analysed the relationship between first year education students' achievement motivation and their academic performance. A total of seven hundred and fifty (750) students were randomly selected for the study. The instrument used for the study was tagged "Education Students' Achievement Motivation Scale (ESAMS)" which was adapted from Cofer and Appley (1964), Achievement Imagery and Grandal and Grandal (1965), Modified Intellectual Achievement Questionnaire (MIAQ). The results indicated that neither students' academic achievement motivation nor students' social achievement motivation had any significant influence on academic performance.

**Rao, Y. S., (2012)** studied the relationship between the school environment and achievement motivation among the IX<sup>th</sup> class tribal students. A sample of the study comprises 700 tribal school students belonging to Nandurbar district. Prayag Mehta's achievement motivation test and Dr. Karuna Shaankar Mistra's school environment inventory were used for the collection of data. The collected data were analysed by using Mean, SD, and correlation. The findings of the study revealed that, there is a difference between the learners from various tribal schools in relation to their achievement motivation.

**Sharma, P. K., (2012)** studied the achievement motivation of children of different classes with respect to their age, sex and locality. 200 students of different classes i.e., 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, were randomly selected from three schools of Ludhiana district of Punjab and two schools of Kangra of H.P. For the measurement of achievement motivation Rao Achievement Motivation test was used. The findings of the study revealed that the children of higher age and lower age do not differ in their mean scores on achievement motivation, boys and girls do not differ on the components of achievement motivation, and there occurred a significant difference between rural and urban students with the achievement motivation.

**Verma, B. K., (2012)** Studied the effect of achievement motivation on scholastic achievement. Cluster sampling technique was used for the selection of sample. 100 boys and 350 girls of 3 governments and 3 private higher secondary schools in Mainpuri district of U.P. were chosen as a sample for the study. Mukherjee's Sentence Completion Test was used as a measure for achievement motivation and marks in the terminal examination were considered as a measure for scholastic

achievement. The findings exhibited a positive relationship between Achievement Motivation and Scholastic Achievement.

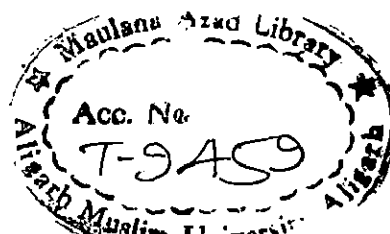
**Jabeen, S., and Khan, M. A., (2013)** studied the relationship between need achievement and academic achievement of high and low achievers of 9<sup>th</sup> grade students of Budgam. For the measurement of Need achievement Mukherjee's Incomplete Sentence Blank Urdu adaptation (Khan, 1992) was used. The results of the study highlight that the High achievers have a high need achievement, possess 'hope of success', have 'high ego-ideal', possess 'perseverance', have 'realistic attitude' are in favour of 'internal control of fate', while as low achievers have a low need achievement, have fear of failure, possess low ego-ideal, are not persevering, have unrealistic attitude and possess a feeling of external control of fate. The study has also revealed that there is a positive and significant relationship between need achievement and Academic achievement of high and low achiever groups.

**Baruah, M., (2013)** Investigated the motivational pattern via power motivation among the tribal students of Assam. 240 college students (120 tribal and 120 non-tribal) ranging from 18-24 years, 60 males and 60 females from both tribal's and non-tribal's comprises the sample. All the prominent tribes of Assam viz. Bodo Kachari, Karbi, Miris, Lalung, Dimasa Kachari and Rabhas, were included in the sample. Thematic Apperception Test, Power Motive Scale and a semi structured interview schedule were used to collect information about, family types, parental deprivation, parental relations, social and political belongingness. Mean, Standard Deviation, and t-test were adopted in this 2x2 factorial design study. Discriminant analysis has been worked out to strengthen the predictive validity of the obtained data. TAT scores divulge significant difference between the tribal's and non-tribal on power motivation. However, results obtained on gender difference indicate analogous scores among both the cultures. Cross validation of the TAT results was done by using the power motive scale by T. S. Dapola which corroborates the results of TAT scores. Power motivation has been studied in three directions, i.e. coercion, inducement and restraint. The finding reveals that coercion tribal's score high showing significant difference, whereas in the inducement or seduction the non-tribal's scored high showing significant difference. On restraint, no difference exists between both cultures. Results of discriminant analysis indicated that inducement or seduction

(0.502) is the dependent measure which has the most discriminating power between these two cultures.

**Begum, P., and Nasrin., (2013)** the study examined the vocational interests of secondary school students in relation to their achievement motivation. A sample of 50 boys and 50 girls of secondary schools were selected. Rao Achievement Motivation Test, by Dr. D. Gopal Rao and Vocational Interest Record, by V. P. Bansal and Prof. D. N. Srivastava was used for data collection. Mean, S.D., t-test and Product Moment Coefficient Correlation was utilized for analysis of the data. The findings disclose that, there was no significant difference in the achievement motivation between male and female secondary school students, there was a significant difference in the vocational interests of male and female secondary school students and there was a significant relationship between achievement motivation and vocational interests of secondary school students.

**Baruah, M., (2014)** investigates the motivational pattern viz., affiliation motivation among the tribal students of Assam. The sample consisted of 240 college students (120 tribal and 120 non-tribal) ranging from 18-24 years, 60 males and 60 females for both tribal and non-tribal. All the prominent tribes of Assam viz. Bodo Kachari, Karbi, Miris, Lalung, Dimasa Kachari and Rabhas were included in the sample. Thematic Apperception Test and semi structured interview schedule were administered for collecting the information about their family types, parental deprivation, parental relations, social and political belongingness. Mean, Standard Deviation, and t -test were the statistical measures adopted in this 2x2 factorial design study. Also discriminant analysis has been worked out to strengthen the predictive validity of the obtained data. TAT scores reveal a significant difference between the tribal's and non -tribal on Affiliation motivation. However, results obtained on gender difference indicate dissimilar scores among both the cultures. Results portray that tribal college students possess the low affiliative tendency as compared to non-tribal. Further n-affiliation was studied on two directions n-associative and n-emotional. A similar trend of results was seen for the two directions showing significant differences in both cultures. Scores on discriminant analysis depict that n-emotional (0.227) is the dependent measure which has the most discriminating affiliative tendency among both the cultures.



## 2.6. Critical appraisal of the literature:

The whole of the literature studied was categorized into five subsections, each section dealing with a specific combination of the dependent and independent variables. The first subsection deals with the studies that were conducted on the different tribal population of J&K. A scarcity of research work was found, related to tribal communities in general and that of Gujjar and Bakerwals in particular. The government and the non-government organization working for the upliftment of tribals have conducted very few studies, most of them highlighted the socio-economic and cultural aspect of these tribal. Lidhoo, (1986) tinted the issues related to child rearing and psycho-social development of Kashmiri tribes. The surveys conducted under the streamer of the Statistics department of J&K and Tribal research and cultural foundation (TRCF) examined the number of boarding student in Gujjar and Bakerwal hostels and the functioning of the mobile schools, meant for tribal students. A single comparative study between the hosteller and non-hosteller tribal students was done by A. R. Baba (1992), but considering the Gujjar and Bakerwal students as one community. During the recent time, researchers have examined the time use patterns of adolescent Gujjar tribal girls (Arora, & Kandra, 2005), impact of unrest on the nomadic life pattern (Koundal, (2012), demographic, social and cultural characteristics of Gujjar and Bakerwals (Ahmad, 2013; Tufail, 2014), comparison of SES, and academic achievement of Gujjar and Bakerwal tribal clans (Rafaqi, 2014, 2015), constraints confronting in educating the tribe (Abrol, 1988, Suri, 2014).

In the second subsection the investigator tried to find out studies related to various tribal populations conducted across India. A hefty amount of research work has been done on various tribal populations across the country. It was found that researchers have touched a broad spectrum of issues that were directly or indirectly related to the tribal population of the country. In this section investigator compiled only those studies that directly or indirectly are related to school achievement of tribal children's. Researchers (like Sinha, 1959; Kar, 1961; Nomani, 1964; Sinha, 1964; Murthy, et al., 1987; Busari, 1988; Ray, 1988; Bej, 1991; Kulkarni, 2013) studied the impact of intelligence on the academic achievement of tribal students across the country. While as Reddy, and Sahadeva, (1980) examined the socio-economic structure of tribal communities in Maharashtra; Ravindranad and Naik, (2014) conducted a study on the tribal population of Tirupati town, Dutta, (1983) and Rao, (2013) in Vishakapatnam.

Fatmi, (1986) studied achievement motivation in tribals population of Hazaribagh district, Balakrishnan, (1986) studied the effect of socio-cultural deprivation of tribes on certain cognitive and non-cognitive abilities, Awasthi, et al., (1987) studied the correlation between education and socio-economic mobility among the Kharia, Munda and Oraon tribes of Bihar. Gaur, et al., (1988) demonstrated the psychological basis of educational and vocational development of SC & non SC students; Manju, (1992) and Sahu, (2013) analysed the academic achievement of tribal and non-tribal tribal students; Ghosh, and Sikadar, (2000) studied the impact of mass literacy programme among the children of Sunderband tribal belt, Jayaswal, et al., (2003) analysed the role of parental support on academic achievement; Kao, and Thompson, (2003) studied the impact of racial, ethnic and immigrant differences in educational achievement and attainment. Vijayalakshmi, (2003); Rajam, and Malarvizri, (2011) studied the problems of secondary school tribal children, Roa, (2005) analysed the status of primary education among ST's of Andhra Pradesh. Shrutikar, (2007) studied the cultural aspect of Idu Mishmi's of Arunachal Pradesh. Demir, (2009) studied the effect of family, student and school characteristic on the academic achievement of poor urban primary school students. Eddy, (2001) studied the effect of mobility on students school achievement. Pandey, (2011) studied the transhumant activities of Gaddi population of Bharmour. Attaran, et al., (2012) analysed the learning culture of nomadic tribes; Dutta, (2012) studied the relationship between gender, parental education, with ability to contribute to a pupils school achievement at secondary level; Kulkurin, and Sonal, (2012) studied the gender based aspect of academic achievement among tribal students of Maharashtra; Manjunath, and Annapurana, (2012) studied SES and the reasons for the school dropouts among tribal population of Karnataka state, and Basu, (2013) compared tribal and non-tribal students. Patil, et al., (2012) explored the SES of sheep rearing Dhangar pastoralists of Maharashtra, Thakur, and Sharma, (2012) evaluated the tribal developmental programs in Himachal Pradesh and Chhetri, (2013) at Sikkim, Puhan, et al., (2013) examined the existing conditions and obstacles confronted by the tribal women in education. Vikram, and Prahallada, (2014) studied the academic level among the tribal secondary school students in rural and urban areas of Chamarajanagar district.

The third subsection includes those researches that study the effect and magnitude of association between intelligence and academic achievement globally, as well as at

national level. It was found that intelligence has remained the preferable choice of predictor(s) among varied cognitive factors of school achievement. Majority of the studies related various cognitive and non-cognitive variables with school achievement. Although, investigators like Kellaghan, (1973) examined the relationship between intelligence and academic achievement in a disadvantage population and found no connection between the two. While as investigators (like Shah, 1990; Ian, et al., 2007; Habibollah, et al., 2010; Mudasir, and Yatu, 2012) studied the impact of intelligence as a single variable on the academic achievement of students and found a positive and significant relationship between the two. Besides these a good number of studies examined the effect of intelligence jointly with certain other variables, researchers like Dutt, et al., (1972); Laidra, (2007) studied the effect of intelligence, combined with some personality traits on the academic achievement. Sween, (1984) intelligence and need achievement; Harnek, (1988); Chada, and Sunanda, (1990); Naderi, et al., studied intelligence, and Creativity, while as Thilagnathi, (1990) added anxiety; Arora, (1992) added emotional stability. These studies candidly revealed that intelligence emerged as a significant and stronger predictor of school achievement. There was a good number of studies (like, Maduri, 1988; Manju, 1989; Sahay, 1991; Garg, 1992; Kalyani, and Krishna, 2002; Colom, and Mendoza, 2006; Strenze, 2007; Patil, 2010; Agnihotri, 2012) that examined the relationship of intelligence and socio-economic status with school achievement. The majority of the studies attributed intelligence as a strongest predictor of school achievement than SES, with interestingly certain exceptions (like Colom, and Mendoza, 2006; Strenze, 2007) where SES emerges as a stronger predictor than intelligence. Shamshad, (1988) added neuroticism and need achievement along with intelligence, while as Ujwala, (1990) replaced need achievement with locus of control; Rajeev, (1989) added children's curiosity. Imtisuga, (2003); Spinath et al., (2006) compared intelligence and motivation with the scholastic achievement, while as Panday, and Ahmad, (2008) added SES. From these studies it was found that intelligence is stronger, significant and a potential factor which determined upto 0.50 to 0.60 per cent of variance in determining the school achievement of students (Conger, and Peterson, 1984).

In the fourth sub-section the investigator examined those studies that determine the relationship between SES and school achievement. It was found that majority of the



studies related to tribal peoples has touched this non-cognitive domain, along with other variables of interest. SES of tribal communities in general and that of students in particular has been studied far and wide globally. In this section the investigator compiled those studies that directly or indirectly are related with the socio-economic and educational development of the marginalized section of society with special emphasis on tribal communities. The literature candidly reveals that SES is a complex variable comprising of various components like education, income, household items, type of houses, etc. Because of its complex nature most of the investigators studied it as a single variable. Investigators like Olatunji, and Olah, (2012); Kumar, et al., (2013) tried to find out the socio-economic status of marginalized groups of society. The findings of these studies reveal that the majority of these isolated groups of the society belong to lower social strata of the society; they lag behind, particularly in four broad areas viz., economy, education, political representation and social prestige. There were ample studies (like, Kareem, 1991; Maqsood, & Rouhani, 1991; Muthumanickam, 1992; Davis-Kean, 2005; Mullah, et al., 2007; Randal, & Bohnert, 2009; Lacour, and Tissington, 2011; Ahmad, and Khan, 2012; Juma, et al., 2012; Kilpatrick, 2012; Qaiser, et al., 2012; Shah, et al., 2012; Chandra, and Azimuddin, 2013; and Yadav, 2013) that tried to find out the relationship between SES and the academic achievement and found SES as a durable predictor of school achievement. Interestingly there were few contradictory studies that totally oppose its contribution (Mishra, 1997; and Ewumin, 2014). Besides this, various researchers attempted to find out the variation of SES when combined with other cognitive and non-cognitive variables, like Chopra, (1982) studied the effect of adjustment and intelligence along with SES on the academic achievement; Vineeta, (1988) studied the effect of SES along with parental attitude and feeling of security; Radha, (1992) added some personality variables and motivation; Jersey, (1997) studied the family influence on education of students; Nkinyangi, (1997) tried to provide a theoretical framework to explain the causes of high primary dropout; Kean, and Pamela, (1999) studied the effect of socio-economic status on parenting and child outcomes, Khallad, (2000); Ali, et al; (2006); Ahmer, and Anwar, (2013); Alade, et al., (2014) studied the influence of gender, socio-economic status, family support, parental expectation and cultural values on academic aspiration; Bohan, et al., (2006) studied aspiration and socio-economic status; Grigoriev, and Lynn, (2009); Frederickson, and Petrides, (2008); reviewed the studies of socio-economic status and ethnic/racial differences;

Kumar, et al., (2012); explored the differences between tribal and non-tribal women populations on autonomy, and family planning measures. The findings of all these studies supported the view that there is a positive and significant relationship between the socio-economic status and school achievement and socio-economic status is the strongest and the significant predictor of school achievement.

The fifth and the last sub-section of this chapter consider those research works that study the association of n-Achievement with the school achievement. The studies provided mixed results; in the majority of the studies n-Achievement emerges as a good predictor of school achievement while as in some cases n-Achievement doesn't show any relationship. A good number of studies (like Sinha, 1970; Choudhari, and Jain, 1975; Elias, and Long, 1984; Bhattacharyya, and Battacharyya, 1990; Baskaran, 1991; Koteshwara, 1991; Harikrishnan, 1992; Rani, and Meena, 1992; Hota, 1995; Mishra, 1997; Ellekkakumar, and Elankathirselvan, 2001; Lau, and Chan, 2001; Joseph, 2004; Alam, 2006; Tella, 2007; Ahmad, et al., 2008; Ahmad, and Nigam, 2008; Steinmayr, and Spinth, 2009; Bahago, 2011; Boruah, 2012; Chandra, and Rachna, 2012; Hornstra, et al., 2012; Madhu, et al., 2012; Baruah, and Devi, 2012; Onete, et al., 2012; Rao, 2012; Sharma, 2012; Verma, 2012; Jabeen, and Khan, 2013; Baruah, 2013; Begum, and Nasrin, 2013; and Baruah, 2014), found n-Achievement as the stronger and significant predictor of achievement. While as Sidhu, and Parminder, (2005); Wang, and Xing, (2009); reported contradictorily. Various studies reported (Petrick, and Kim, 1998; Bansal, et al., 2006; Halawah, 2006; Navarrete, et al., 2007; Acharya, and Shobhna, 2009; Wilkins, 2009; Ghazi, et al., 2010; Moula, 2010; Bahago, 2011 Manjuvani, and Anuradha, 2011) achievement motivation of students as the product of good home environment and parental encouragement. Halawah, (2006) reveal that relationship between school achievement and motivation was very small (0.07). Adsul, and Kumble, (2008) found that caste, gender and economic background of family does not jointly effect on achievement motivation of college students. Manjuvani, and Anuradha, (2011) found that children of single parent families differed significantly in achievement motivation from the children of two parent families. It was also concluded that parental expectations and guidance developed the need for high achievement. The extract from all these studies indicate that n-Achievement is a very interesting factor in determining the school achievement of the students.

### **2.7. Research Gaps:**

A plethora of studies that were reviewed in the above subsections help the investigator to sort out the realms that require further investigation and to decide the methodology and design suitable for the present study. The literature reveals that a varied range of variables has been identified and studied, which directly or indirectly affect the school achievement of the students. Studies whether conducted in India or abroad support multiple results and tried to associate a number of variables with school achievement producing contrary and mixed results. After critical examination of the literature related following conclusions were drawn.

1. Most of the studies cover a small sample/area. So, a definite conclusion can not be drawn.
2. Most of the studies explored the social and economic aspects of the tribal people.
3. There was not a single study related to psycho-social variable that affect the academic achievement of these tribal students.
4. There was also not even a single study to compare the social, economical or educational achievements of Gujjar and Bakerwals separately.
5. In most of the studies the Gujjar and Bakerwals are considered as single clan.

With this background a need was felt to plan for a study, that will explore the impact intelligence, n-Achievement and socio-economic status on the school achievement of Gujjar and Bakerwal tribes of Jammu and Kashmir.

### **2.8. Rationale for the present study:**

Though different researches have brought up several studies regarding academic achievement in India and abroad, but no full-fledged study could be followed out with respect to the tribal Gujjar and Bakerwal students of J&K. The evaluation of the related literature with regards to the problem under investigation indicate that there was not a single study that caters such a number of variables (like intelligence, n-Achievement, socio-economic status) and consider the interaction of various demographic factors (like Gender, Clan, and Division) on the academic performance of the scholars. With this background the present study has been undertaken which is different from the previous investigations in the following aspects:

1. The present study covers a large area of tribal samples from Jammu region and Kashmir Region.
2. The present study is the first of its kind that compares Gujjars with Bakerwals on a variety of dimensions.
3. The study intends to find out the impact of intelligence, n-Achievement and socio-economic status on the school achievement of Gujjar and Bakerwal students separately.
4. The study further intends to find out the effect of certain demographic variables (Clan, Gender and Division) on all the dependent and independent variables.

*The next chapter describes the methodology followed in carrying out the present study*

## **CHAPTER-III**

### **DESIGN OF THE STUDY**

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## **CHAPTER-III**

### **DESIGN OF THE STUDY**

Research design refers to the steps that investigator follows to complete his study from start to finish. A research design is the work before getting the project underway. It has been fixed as the mapping strategy which is based on sampling technique. These include asking a research question based on a theoretical orientation, selection of research respondent and data collection, data analysis, and reporting the results (Marvasti, 2004). Reduced to the simplest of terms, “research design is a mapping strategy which is essentially a statement of the object of the inquiry and the strategies for collecting the evidences, analysing the evidences and reporting the findings”, (Singh, 2006). The research plan is needed because it facilitates the smooth gliding of the various research operations, thereby making research as efficient as possible, yielding maximal information with minimal expenditure of effort, time and money. Research design stands for advance planning of the methods to be adopted for collecting the relevant data and the techniques to be used in their analysis, keeping in view the objective of the research and the availability of staff, time and money.

Kerlinger, (2012) maintains that research plan has two basic purposes, one to provide response to research questions, and second to control the variances. For the sake of clarity the present chapter has been divided into following subsections:

#### **3.1. Population of the study.**

#### **3.2. Sample and data collection.**

#### **3.3. Tools used.**

#### **3.4. Nature of data.**

#### **3.5. Statistical techniques used.**

### **3.1. Population of the study:**

The present study attempts to study the impact of intelligence, need achievement and socio-economic status on the school achievement of Gujjar and Bakerwal students of the Jammu and Kashmir. Thus, all the students of Gujjar and Bakerwal tribal clans of Jammu and Kashmir State serve as the population for the present study.

### **3.2. Sample and data collection:**

The data collection for the present study was done in two phases. In the first phase, data was collected from the Jammu region and in second phase data was collected from the Kashmir valley. The various steps followed in order to obtain a representative sample were discussed as follows.

#### **3.2.1. Description of the sample:**

Sample for the present study comprises of the male and female Scheduled Tribe (ST) (Gujjar and Bakerwal) students of class IX (session 2012-2013) within the age group of 14-16 years. The sample was selected from the government schools affiliated to the Jammu and Kashmir state board of school education (JKBOSE).

#### **3.2.2. Sample selection:**

The required sample was obtained by multi-stage, stratified and simple random sampling techniques. The description of sampling procedure is as under:

#### **3.2.3. Selection of division:**

The state of Jammu and Kashmir has three distinct geographical regions viz., Jammu division, Kashmir division and the Ladakh division. The Gujjar and Bakerwal tribal population is widely distributed in the Jammu region followed by Kashmir region of the state. No Gujjar and Bakerwal tribal population were found in the Ladakh region therefore, through conventional sampling technique these two divisions were selected (Jammu division and Kashmir division).

**3.2.4. Selection of the districts:**

The selection of the districts was done on the basis of the information obtained from Census—2001<sup>7</sup>. Utilizing the data obtained from the office of the registrar general and census commissioner, India; (Table 3.1) the most populated tribal (Gujjar & Bakerwal) districts of the Jammu and Kashmir state were sorted out and leading five districts were selected which included the districts of Poonch, Rajouri, Anantnag, Baramulla and Kuphwara (Figure 3.1). The Baramulla district was replaced by its penultimate Kuphwara district due to its vastness in area, security reasons and paucity of time. It was very difficult for the investigator to trace out the Gujjar and Bakerwals in the district of Baramulla.

**Table 3.1: District wise Gujjar and Bakerwal population of Jammu and Kashmir State**

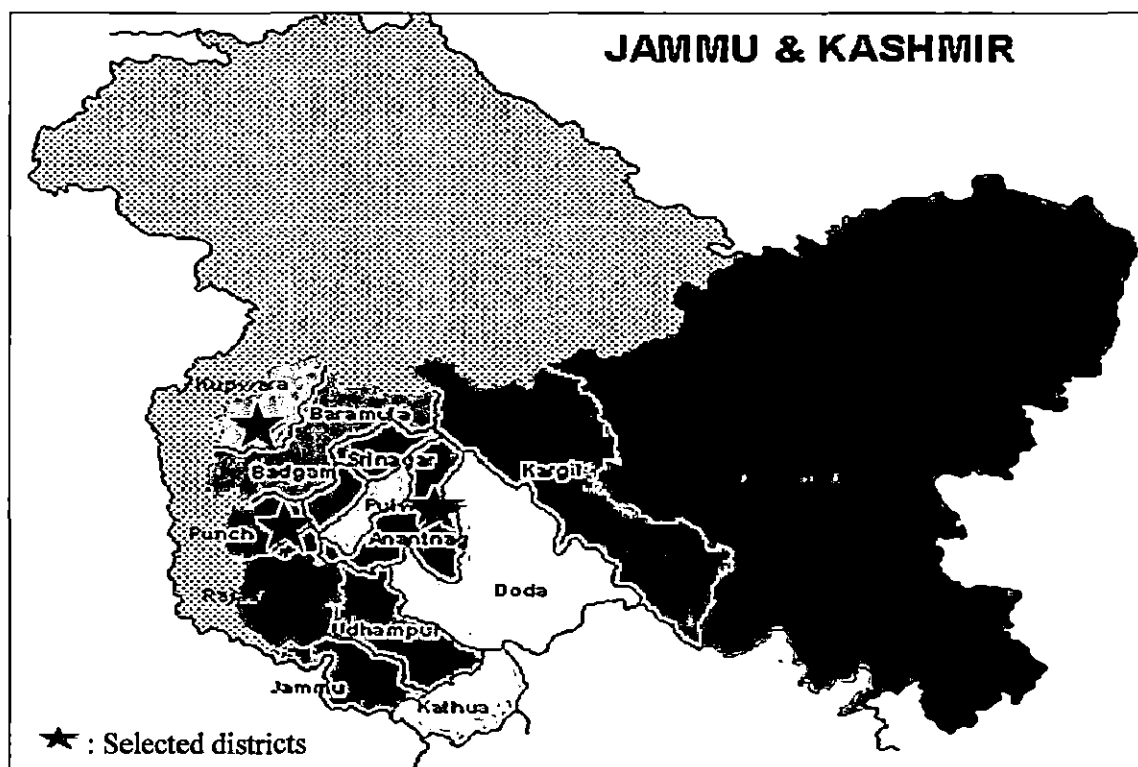
S.No.	Name of districts	Gujjar population	Bakerwal population	Total tribal population
1	Poonch	146,623	2,328	148,951
2	Rajouri	146,484	13,166	159,650
3	Anantnag	83,723	14,778	98,501
4	Udhampur	83,017	15,468	98,485
5	Doda	62,926	8,129	71,055
6	Baramulla	52,170	26,066	78,236
7	Jammu	50,555	1,576	52,131
8	Kuphwara	49,576	1,766	51,342
9	Srinagar	38,788	3,115	41,903
10	Pulwama	20,445	548	20,993
11	Kuthwa	15,149	-----	15,149
12	Budgam	14,108	252	14,360

Source: Government of India, Ministry of home affairs office of the registrar general and census commissioner, India (2001)

<sup>7</sup> During data collection (2012-13) the data information of Census 2011 was not released, therefore data furnished by registrar general and census commissioner, India (2001) was utilised.



Figure 3.1: A Map showing the location of selected districts



Source: Google maps

### 3.2.5. Selection of the institutions:

In order to obtain a representative sample the investigator contacted the chief educational officer (CEO) of the concerned districts that were conveniently selected on the basis of significant tribal population. The category wise (ST, SC, OBC etc.) enrolment list of students was obtained from the concerned offices. After proper scrutinizing of the obtained information only those schools were selected which held a substantial (not less than 25) population of Gujjar and Bakerwal student.

### 3.2.6. Selection of the sample:

The selective samples of the male and female Gujjar and Bakerwal students were obtained by adopting the Stratified random sampling technique. After selection of the schools the investigator first identified the Gujjar and Bakerwal students within the selected school and then the sample of male and female Gujjar and Bakerwal students was randomly selected. The obtained number of sample units on whom the tests were administered is being represented in the tabular form in table 3.2.

**Table 3.2: Name of schools selected for data collection in Jammu division (Phase I)**

S.NO.	Name of the institution	Number of respondents				Total
		Gujjar Clan		Bakerwal Clan		
		Male	Female	Male	Female	
1.	Govt. B/H/S/S Poonch	14	00	02	00	16
2.	Govt. G/H/S/S Poonch	00	13	00	00	13
3.	Govt. H/S Purani Poonch	12	00	03	00	15
4.	Govt. H/S Khari- Karmara	06	04	04	07	21
5.	Govt. H/S Ajote	04	03	03	06	16
6.	Govt. H/S Julas	07	05	03	08	23
7.	Govt. H/S Uchhad (Mendher)	00	00	00	00	00
8.	Govt. H/S/S Mankote (Mendhar)	06	03	04	02	15
9.	Govt. H/S/S Islamabad	05	03	03	07	18
10	Govt. B/H/S/S Mandi	11	00	03	00	14
11.	Govt. G/H/S/S Mandi	00	10	02	03	15
12.	Govt. B/H/S/S Surankote	07	00	03	00	10
13.	Govt. G/H/S/S Surankote	00	07	00	04	11
14.	G & B Hostel Poonch	12	00	02	00	14
15.	Govt. H/S/S Kandi (Budhal)	04	03	03	04	14
16.	Govt. H/S/S Kotranka	05	05	04	07	21
17.	Govt. H/S/S Sialsui Kalakot	03	06	05	04	18
18.	Govt. H/S/S Kalakote (Rajouri)	06	05	02	03	16
19.	Govt. H/S/S Soulki	03	08	06	05	22
20.	Govt. H/S/S Moghla (Kalakote)	03	10	05	04	22
21.	G & B Hostel Rajouri	18	00	00	00	18
	TOTAL	126	85	57	64	332

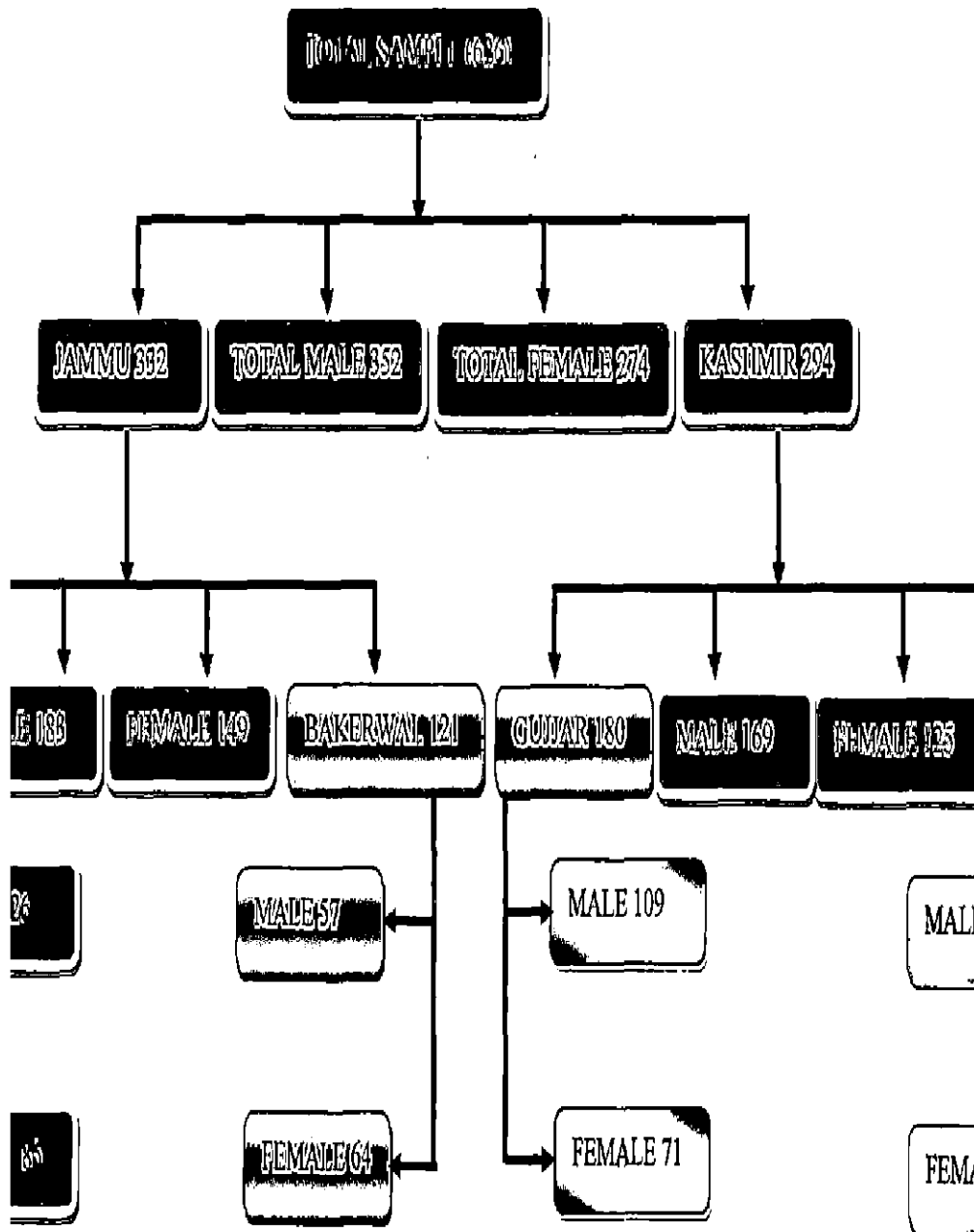
**Table 3.3: Name of schools selected for data collection in  
Kashmir division (Phase II)**

S.NO.	Name of the institution	Number of respondents				Total
		Gujjar Clan		Bakerwal Clan		
		Male	Female	Male	Female	
1.	Govt. H/S/S Larnoo	04	02	01	02	09
2.	Govt. B/H/S Matihandoo	05	03	02	03	13
3.	Govt. H/S Guridraman	04	05	00	00	09
4.	Govt. H/S Gawran	03	03	06	04	16
5.	Govt H/S Kapran	05	03	02	02	12
6.	Govt. H/S/S Noubugh	03	03	06	02	14
7.	Govt. H/S Kachwan	00	00	06	05	11
8.	Govt. H/S/S Kharpora	04	02	04	04	14
9.	Govt. H/S/S Chittergul	06	04	00	00	10
10.	Govt. H/S Chakilpora	03	06	00	01	10
11.	Govt. H/S Panchalthan	02	03	06	08	19
12.	Govt. H/S Brimmer.	02	04	05	08	19
13.	Govt. H/S Cherpora	08	10	03	03	24
14.	Govt. H/S Pushkeeri	02	05	04	04	15
15.	G & B Hostel Anantnag	09	00	03	00	12
16.	Govt. B/H/S Manigah (Kupwara)	07	00	00	00	07
17.	Govt. B/H/S Manzhar	08	00	00	00	08
18.	Govt. B/H/S/S Kalaroos	07	00	00	00	07
19.	Govt. H/S Sarkooli	06	07	03	02	18
20.	Govt. G/H/S Goose	04	03	02	00	09
21.	Govt. H/S Sharanath	02	03	02	01	08
22.	Govt. H/S Koligam	03	03	03	03	12
23.	Govt. H/S Warnow	04	02	02	02	10
24.	G & B Hostel Kupwara	08	00	00	00	08
	Total	109	71	60	54	294

Thus a representative sample of 626 Gujjar and Bakerwal students was drawn from a total of 1000 students on whom the tests were administered. The reasons for the rejection of 374 responses may briefly be described as below:

1. Incomplete answers were given to one or more tests.
2. Due to inconvenient/fictitious answering of the questions, especially in the SES questionnaire.
3. Some of the respondents have not allocated themselves to any clan, i.e., neither Gujjar nor Bakerwal, these too were rejected.
4. There were some students who were migrated from middle school and their school achievement was not available in school records, those too were dropped from the final sample.
5. In this process hundreds of response sheets got rejected and a healthy sample of 626 subjects was finalized. The detailed anatomy of the total sample has been described in Figure 3.2 as under.

Figure 3.2: Description of the obtained sample



### **3.3. Tools used for data collection:**

The present study is an attempt to find out the influence of intelligence, n-Achievement and socio-economic status on the school achievement of Gujjar and Bakerwal students of Jammu and Kashmir. In order to obtain valid and reliable scores of independent variables, the investigator makes use of the standardized tools purchased from the national psychological corporation, Agra. The brief introduction of these tools are given in the following subsections.

#### **3.3.1. Intelligence test (Appendix—C):**

The intelligence of the respondents were measured by Catell and cattell's test of 'g' Culture fair (scale 2, form A). This test measures individual intelligence in a manner designed to reduce, as much as possible, the influence of verbal fluency, cultural climate and educational level. The test is non-verbal in nature and requires only that examinees be able to perceive relationships in shapes and figures.

The scale contains four subsets, involving different perceptual tasks, so that the composite intelligence measure avoids spurious reliance on a single skill. The description of the subsets is as follows:

##### **Series test:**

This subset contains 12 items for which the allotted time is 3 minutes. In it, the individual is presented with an incomplete progressive series. His task is to select, from among the choices provided, the answer which best continues the series.

##### **Classification test:**

The subtest contains 14 items for which the allotted time is 4 minutes. In it, the individual is presented with figures and he or she has to select one which is different from the other four.

##### **Matrices test:**

This subtest contains 12 items for which the allotted time is 3 minutes. In it, the task is to correctly complete the design or matrix presented at the left of each row.

**Conditions (Topology) test:**

This subset contains 8 items for which the allotted time is 2 and ½ minutes. It requires the individual to select, from the five choices provided, the one which duplicates the conditions given in the far left box.

**Reliability of the test:**

The reliability of the test is established by three separate methods. The first method evaluates consistency over time, calculated through various methods, including Split-half and appropriate internal consistency formulae which is found to be 0.76 (N=3909 males and females). The second method evaluates consistency over parts by inter form correlations corrected to appropriate length which is found to be 0.67 (N=832 males and females). The third method evaluates consistency over time by immediate test-retest correlations, which is found to be 0.73 (N=650 males and females). All coefficients are quite respectably high and have been evaluated across large and widely diverse sample.

**Validity of the test:**

The validity of the test is also established through various methods. The concept validity (how well the test measures the pure intelligence factor 'g' which it is designed to measure) by direct correlations with pure intelligence factor is found to be 0.81 (N=660 males and females) across independent factor analysis and across culture. The concrete validity (correlation with other methods of general intelligence, some non-verbal, others, substantially verbal in content like GATB, WAIS, and Progressive matrices, DAT, Stanford-Binet and WISC) is found to be 0.70 (N +523 males and females).

In relation to test design itself, another important avenue of validity to explore is the extent to which the effect of cultural learning and social climate have been removed from test scores. Various researchers like Cattell (1951), Fowler (1955) and Weiss (1971) have demonstrated no significant differences in intelligence over cross sectional sample.

### 3.3.2. Need achievement (n-Achievement) scale (Appendix—D):

For studying the achievement motivation of the Gujjar and Bakerwal students, the investigator employed Deo-Mohan Achievement Motivation (n-Achievement) scale, constructed by Pratibha Deo and Asha Mohan and published by national psychological corporation, Agra. It is a self-rating type and may be administered to individuals and to the group with five points to rate viz., always, frequently, sometimes, rarely, and never. It has no time limit. The scale has designed for use with the age group ranging from 13 to 25 and above. The scale was in the statement form covering the areas of academic factors, factors of the general field of interest, competition in curricular and co-curricular activities and social interest. Total number of items was 50 having following distribution.

**Table 3.4: Showing the distribution of items in n- Achievement scale**

Sr. No.	Factor	No. Of items
1	Academic Motivation	4
2	Need for Achievement	4
3	Academic Challenge	4
4	Academic Anxiety	1
5	Importance of grades/ Marks	2
6	Meaningfulness of task	4
7	Relevance of college to future goals	2
8	Attitude towards education	4
9	Work methods	5
10	Attitude towards teachers	3
11	Interpersonal relations	4
12	Individual relation	2
13	General interest	4
14	Dramatics	2
15	Sports etc.	5

Out of these items, 13 items were negative, i.e., the item no. 1, 12, 13, 14, 17, 18, 19, 20, 21, 22, 32, 34, 37 and remaining 37 were positive items.



**Reliability of the scale:**

The test--retest method was applied to obtain the reliability coefficient of the scale. Talking different sets of sample; the administrator of the test was repeated on several occasions. The results are given below.

**Table 3.5: Showing the reliability coefficient**

Sample	No.	Interval	r	Significant level
Mixed Group	51	4 weeks	0.69	0.01
Males	33	5-6 weeks	0.67	0.01
Females	50	5-6 weeks	0.78	0.01

These coefficients of reliability are sufficiently high and the scale can be taken as quite reliable for the use.

**Validity of the scale:**

As far as validity is concerned, in the first instance the item validity established by high-low discrimination method was accepted as the validity of the whole measure. Besides, this scale was also used for validating the projective test of achievement motivation. The coefficient of correlation between the scale and the projective test was observed to be 0.04, which speaks for the validity of the score also, the validity being of the concurrent nature. Finally the obtained scores were correlated with the scores obtained by administering the Aberdeen academic motivation Inventory of Entwistle (1968) yielding the coefficient of correlation as 0.75 for a mixed sample of 93; this sample is high enough to establish the validity of the scale. Regarding the 'r' value of 0.54 between the scale and projective test, McClelland explains that self-descriptive and projective measure are usually not correlating high with each other; even Carney (1966) observed that questionnaire measures correlated poorly with McClelland's projective measure. These explanations support the result of the present scale of achievement motivation to be sufficiently valid for use for measuring achievement motivation.

**Scoring:**

One stencil keys were used for scoring, positive and negative items. Positive items carry the weights of 4, 3, 2, 1 and 0 in the categories of **Always, Frequently, Sometimes, Rarely and Never** respectively. The negative items were scored 0, 1, 2, 3, and 4 for the same categories respectively that are given above. Separate key for positive and negative items were provided. The total score is the summation of all the positive and negative items score. The minimum score obtained can be 0 (zero) and maximum can be 200, other scores range in between these limits.

**3.3.3. Socio-economic status scale (Appendix—E):**

The socio-economic status scale constructed by Divya Singh and Deepa Vinay (2013) was used to access the socio-economic status of Gujjar and Bakerwal students. This scale was designed to measure the socio-economic status of rural communities residing in the foothills of the Himalayas, as their life style altogether differ from the families of the other agro-climiting zonal areas. The scale was prepared mainly to provide a simple instrument which could be used without spending much time and effort and to obtain a correct measure of socio-economic status of a person.

**Reliability and validity of the scale:**

**Reliability:** The concept of internal consistency does not apply to present scale. However the results of inter-correlation among various items of the scale were found out. Stability is quite important in the case of scale like the present one. Coefficient of stability was calculated for the present scale by the test retest method.

**Test-retest method:**

The correlation of the scale scores taken at two different times (after 45 days) on 62 persons selected randomly from different villages indicated quite a high coefficient of stability (0.82)

**Validity:****Content validity:**

Content validity of the scale is borne out by the method of connecting the items. The universe of the concept was covered widely and sampled through interviews with the various persons, farmers and other villagers and other villagers, expert, outside persons, knowing the villages well, Indian and foreign studies.

**Concurrent validity:**

The usual way of testing, concurrent validity is by finding out how well scores correspond to some outside criterion of the variables being measured.

The relationship of the scale scores with identifiable groups (known group) was used as the criterion for this purpose. A random sample of 60 persons was requested to name persons of very high and low socio- economic status. In all the 30 persons with High socio economic status and 30 with low socio economic status were named. The selected sample of high and low socio-economic status was measured by t-test, a t-test difference in the socio-economic status of people in low and high group gave a value of  $t = 2.00$  which is significant at 0.05 level of significance. This shows that scale is able to discriminate between people in low and high socio-economic status group.

**Scoring of the socio-economic status scale:**

All the responses of various items/categories of the scale are scored using the scoring keys as provided in the manual. The total sum of the all the secured score determines the raw score of socio-economic status.

**3.4. Nature of the data:**

This section deals with the issues related to check the normality of the data obtained from the respondents on various variables under study. The obtained raw scores after proper scoring of the response sheets were entered in SPSS version-20 software. In order to make use of various statistical techniques the issues related to the normal distribution of the data was first sorted out by studying the probability curve and calculating the skewness and kurtosis for the total sample. To obtain the best results out of the data it is inevitable to know the nature of the data i.e. normality of the

sample data. If the sample data are normally distributed, then it is assumed that they came from a normally distributed population. The nature of distribution of the data obtained for each variable score was studied for the total Gujjar and Bakerwal students. In order to check the normal distribution of the collected data frequency distribution and statistical values, including mean, S.D, skewness, kurtosis and the frequency polygon of different groups has calculated and described as below.

### 3.4.1. Nature of distribution of school achievement, socio-economic status, intelligence and n-Achievement for the total sample:

In order to check the normality of data obtained by adopting standardized tools, various statistical values have been calculated and the summary statistics of these variables have been presented in table 3.7.

**Table 3.6: Statistical summary of the dependent and independent variable calculated for the total sample**

Variables	N	Mean	Median	S.D.	Skewness	Kurtosis
School Ach. <sup>a</sup>	626	53.59	53.00	11.994	0.389	-0.591
SES <sup>b</sup>		55.0927	50.00	20.76677	0.986	0.622
Intelligence <sup>b</sup>		14.58	14.00	5.263	0.523	-0.163
n-Achievement <sup>b</sup>		126.88	127.00	23.541	-0.168	-0.195

<sup>a</sup> Dependent variable, <sup>b</sup> Independent variable

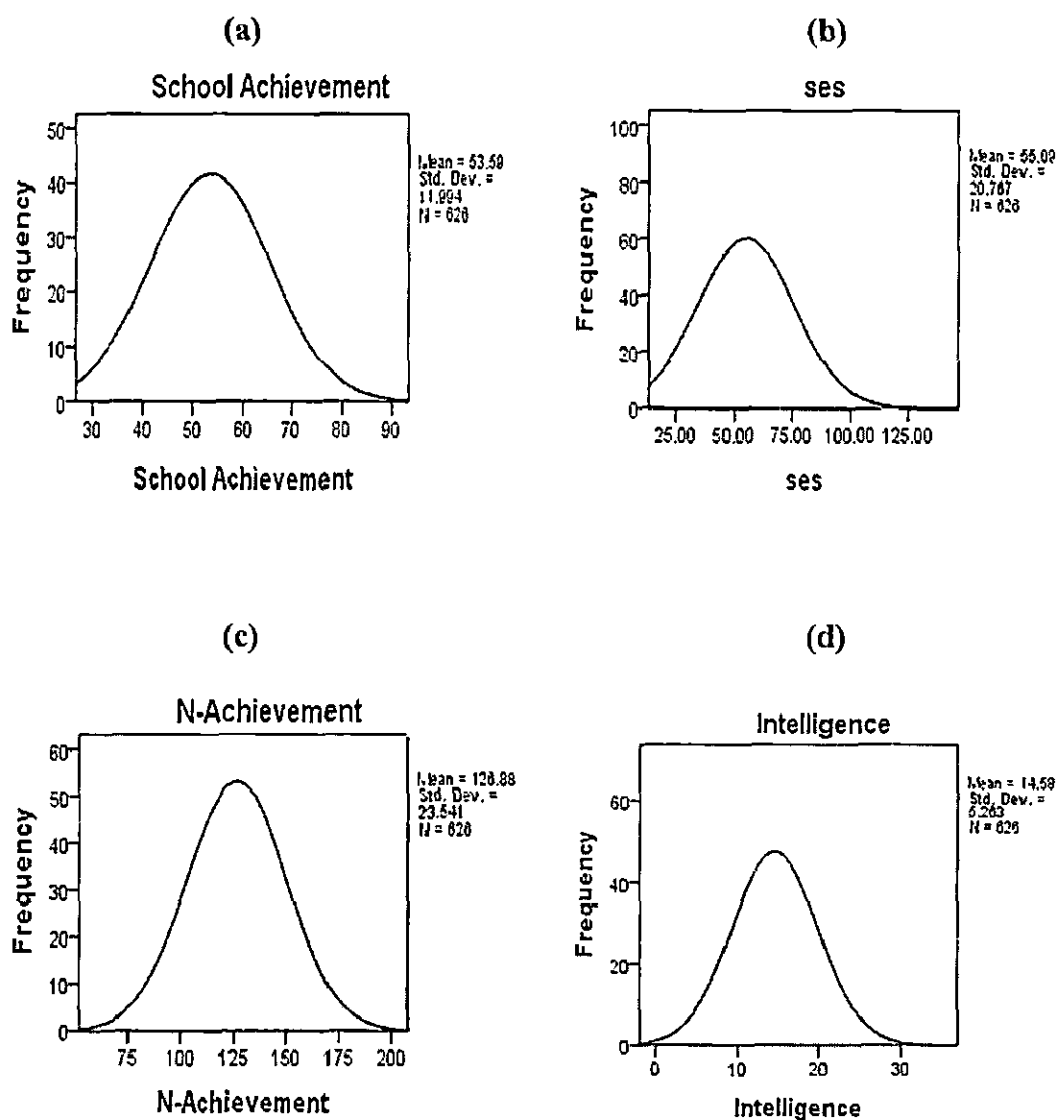
A glance at table 3.7 reveals that there is negligible positive skewness and a bit of negative kurtosis in the scores of school achievement (Dependent Variables), socio-economic status, intelligence and n-Achievement (Independent Variables). The distribution of the school achievement scores for the total sample is found to be a little positively skewed (0.389) suggests that data is skewed to the right, and is approximately symmetric. The excess negative kurtosis (-0.591) is slightly lower than zero, indicating that the distribution is slightly platykurtic.

The scores of the socio-economic status reveal that there is a little bit positive skewness of (0.986) suggesting that the data is skewed to the right, approximately symmetric, and a positive kurtosis of (0.622) indicating that the distribution is slightly platykurtic. The total scores of the intelligence represent a slight positive value of

skewness (0.523) suggests that data is skewed to the right, and is approximately symmetric. The negligible negative value of kurtosis (-0.163) implies that the distribution is slightly platykurtic. The statistical values for the scores of n-Achievement showed a negative value of skewness (-0.168) suggests that the data is skewed to the left, and is approximately symmetric. The excess kurtosis (-0.195) is slightly lower than zero, indicating a platykurtic distribution. All these calculations lead us to a holistic conclusion that the obtained data approximately possesses a normal distribution.

The normal distributions curves drawn for the total scores obtained on variables Viz., school achievement, intelligence, socio-economic status and need achievement are graphically visualised as under.

**Figure 3.3: Normal distribution curve of school achievement, socio-economic status, intelligence and n-Achievement for the total sample**



A glance at the frequency polygons of Fig 3.3— a, b, c, d reveals that the probability curve for the scores of school achievement, socio-economic status, n-Achievement and intelligence respectively tends to be approximately normal.

### **3.5. Statistical techniques used:**

In order to test the set hypothesis the obtained scores of the respondents were fed in *IBM SPSS, Version — 20* software. The statistical values of mean, standard deviation, Skewness, Kurtosis, frequency polygon, Pearson's Coefficient of Correlation, Stepwise regression analysis, and ANOVA in "A x B x C" (2 x 2 x 2) factorial design were calculated by the investigator.

*The next chapter presented analysis and interpretation of the data. All the obtained values are tabulated, interpreted and discussed in this chapter.*

## **CHAPTER-IV**

### **ANALYSIS, INTERPRETATION AND DISCUSSION**

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## CHAPTER-IV

### ANALYSIS, INTERPRETATION AND DISCUSSION

As per the design of the study, the collected data was subjected to statistical treatment in order to verify the stated hypotheses. This chapter presents the results of the study obtained after statistical analysis, their interpretation and discussion. For the convenience and clarity in the presentation, the results have been presented under the following broad sub-headings.

- 4. A: To find out the correlation between the criterion and the predictor variable.
- 4. B: To find out the individual and the combined effect of predictor variables on the criterion variable.
- 4. C: To study the effect of certain demographic variable viz., clan, gender and division on the predictor and the criterion variable.

#### 4. A: CORRELATION ANALYSES:

##### 4.1. To find out inter-correlation between criterion and the predictor variable:

In order to achieve the above mentioned objective, school achievement was taken as the criterion variable and the three predictor variables were intelligence, n-Achievement, and socio-economic status (SES). In order to find out the correlation between the criterion and the predictor variables, the values of correlation co-efficient ( $r$ ) were calculated. All the calculated values obtained after proper statistical analysis (by the aid of *IBM SPSS, Version—20* software) representing the correlation of all the three predictive variables (intelligence, n-Achievement, and socio-economic status) with the criterion variable (school achievement) have been tabulated for the total sample, total sample of Jammu division, total sample of Kashmir division, total male sample, and for total female sample of the Gujjar and Bakerwal tribe. The obtained correlational values of the various predictor variables and the criterion variable for these groups are represented in tabular form in table 4.1.1.



**Table 4.1.1: Correlation between the predictive variables and the criterion variable**

Predictive variables	Criterion variable school achievement				
	Total sample (N=626)	Jammu division (N=332)	Kashmir division (N=294)	Male sample (N=352)	Female sample (N=274)
<b>SES</b>	0.506**	0.567**	0.357**	0.581**	0.355**
<b>Intelligence</b>	0.513**	0.495**	0.503**	0.525**	0.482**
<b>n-Achievement</b>	0.316**	0.293**	0.290**	0.321**	0.303**

\*\*Correlation is significant at the 0.01 level (2-tailed).

The coefficient of correlations presented in table 4.1.1 reveals that all the coefficient of correlation's are statistically significant at 0.01 level of confidence. Again from the same table, the correlation between the school achievement and socio-economic status for the total sample is 0.506, whereas, for the total sample of Jammu division it is 0.567, for the total sample of Kashmir division the value is 0.357, for total male sample it is 0.581, and for female sample it is 0.355. The coefficient of correlation between intelligence and school achievement is found to be 0.513 for the total sample, its value is found to be 0.495 for the total tribal sample of Jammu division, for the sample of Kashmir division  $r$  is 0.503, for total male sample it is 0.525 and for the female sample the correlation value stands at 0.482. All these values are positive and statistically significant at 0.01 level of confidence.

The coefficient of correlation between the n-Achievement and school achievement is found to be 0.316 for the total tribal sample, for the sample of Jammu division it is 0.293, for the sample of Kashmir division it is 0.290, for the total male sample it is 0.321 and for the total female sample it is 0.303. All these values are positive and highly significant at 0.01 level of confidence. This shows that all these three predictive variables viz., intelligence, n-Achievement, and socio-economic status, are positive and also significantly related to the criterion variable i.e. school achievement. It indicates that any alteration (increase or decrease) in the predictor variables socio-economic status, intelligence and n-Achievement, is bound to cause similar changes (increase or decrease) in the criterion variable.

**Table 4.1.2: Correlation between the predictive variables and the criterion variable for the sub-groups**

Predictive variables	Criterion variable school achievement			
	Jammu division		Kashmir division	
	Total Gujar (211)	Total Bakerwal (121)	Total Gujar (180)	Total Bakerwal (114)
<b>SES</b>	0.559*	0.427*	0.359*	0.350*
<b>Intelligence</b>	0.432*	0.611*	0.441*	0.639*
<b>n-Achievement</b>	0.281*	0.356*	0.447*	0.145***

\*Significant at the 0.05 level (2-tailed).

\*\*\*Not Significant.

The table 4.1.2 shows the calculated coefficient of correlational values of the criterion variable (school achievement) and the three predictor variables (socio-economic status, intelligence and n-Achievement) for the total Gujar and Bakerwal samples of Jammu division and for the Kashmir division. Glance at the above table reveals that the coefficient of correlation between the socio-economic status and school achievement is found to be 0.559 and 0.427 for the total Gujar and Bakerwal sample of the Jammu division, and 0.359 and 0.350 for the total Gujar and Bakerwal sample of the Kashmir division respectively.

The coefficient of correlation between the intelligence and school achievement is found to be 0.432 and 0.611 for the total Gujar and Bakerwal sample of Jammu division and 0.441 and 0.639 for the total Gujar and the Bakerwal sample of the Kashmir division respectively. The coefficient of correlation between the n-Achievement and school achievement is found to be 0.281 and 0.356 for the total Gujar and Bakerwal sample of the Jammu division, and 0.447 and 0.145 for the Gujar and Bakerwal sample of the Kashmir division respectively.

All the calculated values shown in the above table are positive and statistically significant at 0.05 level of confidence except for n-achievement and school achievement in the total Bakerwal sample of Kashmir division. Thus, it can be inferred that any alteration (increase or decrease) in the predictor variables socio-economic status, intelligence and n-Achievement is bound to cause similar changes (increase or decrease) in the criterion variable.

**Table 4.1.3: Correlation between the predictive variables and the criterion variable (school achievement) for Jammu division (sub-groups)**

Predictive variables	Criterion variable school achievement			
	Jammu division		Jammu division	
	Gujjar sample		Bakerwal sample	
	Male (N=126)	Female (N=85)	Male (N=57)	Female (N=64)
<b>SES</b>	0.580**	0.439**	0.608**	0.253*
<b>Intelligence</b>	0.393**	0.515**	0.693**	0.584**
<b>n-Achievement</b>	0.239**	0.393**	0.385**	0.336**

\*Significant at the 0.05 level (2-tailed).

\*\*Significant at the 0.01 level (2-tailed).

The calculated values of correlation between the predictor variables (socio-economic status, intelligence and n-Achievement) and the criterion variable (school achievement) for the male and female sample(s) of Gujjar and Bakerwal clan of Jammu division are tabulated in table 4.1.3. Glance at the above table reveals that the coefficient of correlation between the socio-economic status and school achievement is found to be 0.580 and 0.439 for the male and female Gujjar samples of the Jammu division, and 0.608 and 0.253 for the Bakerwal male and female sample of the Jammu division respectively. The coefficient of correlation between the intelligence and school achievement is found to be 0.393 and 0.515 for the male and female Gujjar samples of Jammu division, and 0.693 and 0.584 for the Bakerwal male and female of the same division respectively. The coefficient of correlation between the n-Achievement and school achievement is found to be 0.239 and 0.393 for the male and female samples of Gujjar, and 0.385 and 0.336 for the Bakerwal male and female sample of Jammu division.

All these values shown in the above table are positive and highly significant even at 0.01 level of confidence. Although, the correlation coefficient's of the criterion variable with socio-economic status for the Bakerwal female sample is significant at 0.05 level of confidence. It indicates that any increase or decrease in the predictor variables socio-economic status, intelligence and n-Achievement, is liable to cause similar changes in the criterion variable.

**Table 4.1.4: Correlation between the predictive variables and the criterion variable (school achievement) for Kashmir division (sub-groups)**

Predictive variables	Criterion variable school achievement			
	Kashmir division		Kashmir division	
	Gujjar sample		Bakerwal sample	
	Male (109)	Female (71)	Male (60)	Female (54)
<b>SES</b>	0.377 <sup>**</sup>	0.322 <sup>**</sup>	0.432 <sup>**</sup>	0.283 <sup>*</sup>
<b>Intelligence</b>	0.510 <sup>**</sup>	0.326 <sup>**</sup>	0.709 <sup>**</sup>	0.574 <sup>**</sup>
<b>n-Achievement</b>	0.502 <sup>**</sup>	0.384 <sup>**</sup>	0.159 <sup>***</sup>	0.101 <sup>***</sup>

<sup>\*</sup>Correlation is significant at the 0.05 level (2-tailed).

<sup>\*\*</sup>Correlation is significant at the 0.01 level (2-tailed).

<sup>\*\*\*</sup>Not Significant.

Table 4.1.4 reveals that the coefficient of correlation between the socio-economic status and school achievement is 0.377 and 0.322 for male and female Gujjar sample and 0.432 and 0.283 for male and female Bakerwal sample of Kashmir division respectively. The coefficient of correlation between the intelligence and school achievement is 0.510 and 0.326 for male and female Gujjar sample; and 0.709 and 0.574 for the Bakerwal male and female sample of Kashmir division respectively. The coefficient of correlation between the n-Achievement and school achievement was found to be 0.502 for the Gujjar male sample and 0.384 for the Gujjar female sample of Kashmir division. All these values were positive and significant at 0.01 level of confidence except for criterion and SES correlation values of female Bakerwal sample of Kashmir division. It indicates that any increase or decrease in the predictor variables socio-economic status, intelligence and n-Achievement for the said/same sample, is bound to cause similar increase or decrease in the criterion variable.

The coefficient of correlation between male and female Bakerwal sample of the Kashmir division was found to be 0.159 and 0.101 respectively. These values of correlation were statistically insignificant, as  $p > 0.05$ .

#### **4. B: REGRESSION ANALYSIS**

**4.2. To find out the individual and the combined effect of predictor variables on the criterion variable:**

#### 4.2.1. Total sample:

**HO<sub>1</sub>:** *None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample.*

In order to find out the combined and individual effect of the selected variables viz., socio-economic status, intelligence and n-Achievement on the criterion variable school achievement, stepwise multiple regression analysis was applied. The results of which are presented in the table 4.2.1.

**Table 4.2.1: Stepwise regression analysis between the predictive variables and the criterion variable (total sample)**

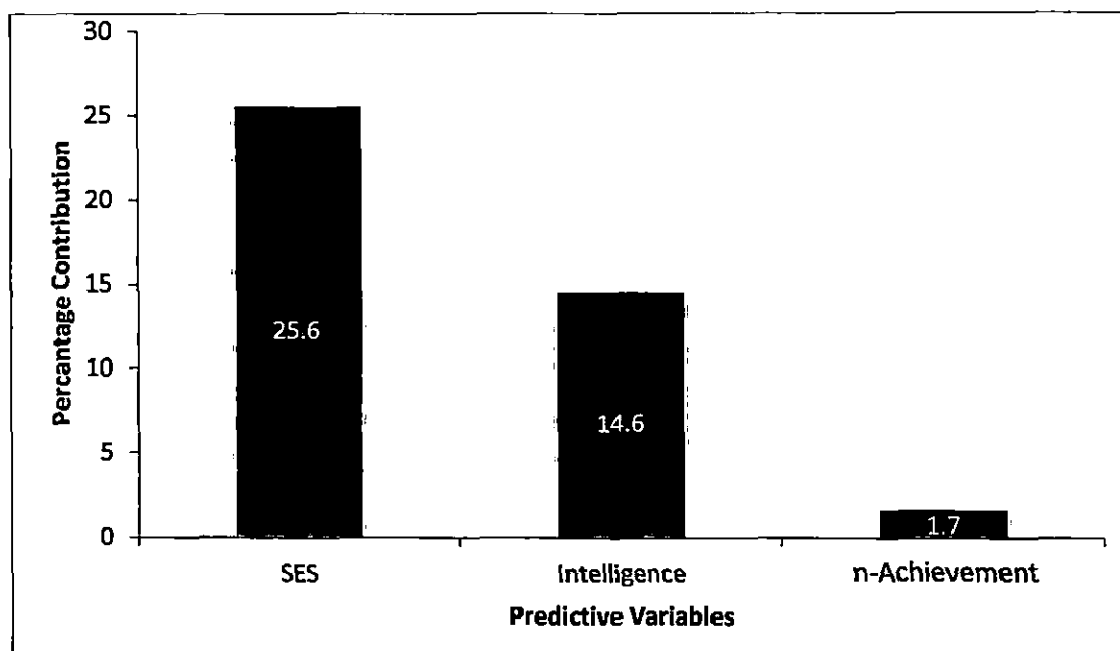
Model	R	Adjusted R Square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.506	0.255	0.256	624	214.498**
2 <sup>b</sup>	0.634	0.400	0.146	623	151.856**
3 <sup>c</sup>	0.647	0.416	0.017	622	17.843**
a. Predictors: (Constant), Socio-economic status. b. Predictors: (Constant), Socio-economic status, intelligence. c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

The results of the analysis presented in the table 4.2.1, reveals that the predictor variables socio-economic status, intelligence and n-Achievement are found to be the significant predictors of school achievement for the total sample. The total predictability magnitude as represented by the multiple regression factor R<sup>2</sup> was calculated as 41.6% shared by three predictor variables to the criterion variable. Also from the same table socio-economic status emerges as the most important contributing factor (25.6%) of the variance in criterion variable. This contribution is significant at 0.01 level of significance (F= 214.498). The second important contributing variable was the intelligence, which shares (14.6%) of the variance in the criterion variable, which is also significant at 0.01 level (F= 151.856). The third variable n-Achievement shares only 1.7 % of the variance in the criterion variable which is significant at 0.01 level (F= 17.843).

The relative percentage contribution of all predictor variables in terms of shared common variance in the criterion variable school achievement for the total sample can be graphically represented as follows.

**Figure 4.2.1: Percentage contributions of the predictive variables in the criterion variable for the total sample**



Out of three predictor variables socio-economic status emerges the strongest and the most important predictor of school achievement for the total tribal sample. Candidly indicates that the students belonging to better socio-economic backgrounds acquire better educational environment at home. These pupils were also confirmed by their parents and they consider educational expenditure as a safe investment and more beneficial for the future of their wards. These results are corroborated by the findings of Chopra, 1982; Kareem, 1991; Maqsud and Rouhani, 1991; Rani Radha, 1992; Singh and Singh, 1995; Jersey, 1997; Khallad, 2000; Kao and Thompson, 2003; Ali Mcwhitr, 2006; Bohon Johnson and Gorman, 2006; Strenze, 2007; Frederickson and Petrides, 2008; Randall and Bohnert, 2009; Juma, et al., 2012; Kilpatric, 2012; Olatunji, and Olah, 2012; Ahmer and Anwar, 2013; White, 1982; Sirin, 2005; and Coleman, 1988). While as, findings of Sirin (2005) suggested a moderate relationship between socio-economic status and achievement at the individual student level, but a stronger relationship at the school level (in terms of aggregate test scores). His findings suggested that not only did the students seem to benefit directly from resources at home (economic capital) but indirectly from the

social capital as theorized by Coleman (1988) as well as influencing the types of schools they attend.

Intelligence emerges as the second stronger predictor of school achievement. Subsequent to socio-economic status it was considered to be an important factor which affects the school achievement of this tribal group. Intelligence has been considered as a single most important factor which influences almost all the dimensions of an individual's life. The results are in line with the findings of Karile, and Harnek, 1988; Sharma, Maduri, 1988; Shah, 1990; Murray, 1994; Colom, and Mendoza, 2006; Spinath, 2006; Ian, 2007; Laidra, 2007; Panday and Ahmad, 2008; and Habibollah, 2010.

Need achievement emerged as third significant predictor of school achievement for the total Gujjar and Bakerwal sample of Jammu and Kashmir with the predictability strength of only 1.7% much lower than intelligence and socio-economic status. The results are supported by the findings of Joseph, 2004; Alam, 2006; Ahmad, 2008; Steinmayr, and Spinath, 2009; Madhu, Gupta, 2012; Manidipa, Baruah, Asha Devi, 2012. However, Graham's (1994) presented a summary of the literature on the competence beliefs of African-American students revealed that they maintain optimism and positive self-regard in the face of social and economic disadvantage. Graham also found evidence that the academic self-beliefs of African-Americans are strong, even in the face of achievement failure. Moreover, the competence beliefs of African American students are as strong as and often stronger than those of their white peers. Similar findings have been reported with Hispanic-American samples (Lay & Wakstein, 1985; Stevenson, Chen, & Uttal, 1990).

In the light of the above discussion, it can be concluded that all the three predicting variables emerges out to be significant predictors of school achievement for the total Gujjar and Bakerwal tribal sample of Jammu and Kashmir state. Thus the above stated Null hypothesis, "*None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample*", is rejected.

**Table 4.2.2: Summary of ANOVA for final model**

Model		SS	df	MS	F-change
1. <sup>a</sup>	Regression	37613.178	3	12537.726	149.120**
	Residual	52296.664	622	84.078	
	Total	89909.842	625		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

**Table 4.2.3: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta β	
(Constant)	20.793	2.127		9.775
SES	0.218	0.019	0.378	11.791**
Intelligence	0.816	0.076	0.358	10.721**
n-Achievement	0.070	0.017	0.137	4.224**

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.

The ANOVA, table 4.2.2 reveals that the model for prediction of school achievement for the total sample involving three variables explained significant variance due to the regression as can be inferred by the F-ratio (214.498). It means that for the total sample, these three predictors can be used as significant predictors to predict school achievement of the similar population. Moreover, the table 4.2.3 shows that the regression coefficients of the three predictors are positive and significant, indicating that the variation due to the predictive variable will cause the positive and significant change in the school achievement.

The regression equation to predict school achievement of tribal students can be expressed in terms of the linear combination of the significant predictive variables socio-economic status, intelligence, n-Achievement as follows.

$$Y = 20.793 + 0.378 X_1 + 0.358 X_2 + 0.137 X_3$$

Y = School achievement scores.

X<sub>1</sub> = Socio-economic status scores.



$X_2$  = Intelligence scores.

$X_3$  = n-Achievement scores.

Where, Y stands for the School achievement of the students,  $X_1$  for socio-economic status,  $X_2$  for the intelligence,  $X_3$  for n-Achievement., While as 20.793 is a constant term.

#### 4.2.2. For total male:

**HO<sub>2</sub>:** *None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample.*

In order to test the above set hypothesis the calculated results of the stepwise regression analysis obtained by treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for total male sample are presented in the tabular form as below.

**Table 4.2.4: Stepwise regression analysis between the predictive variables and the criterion variable (total male sample)**

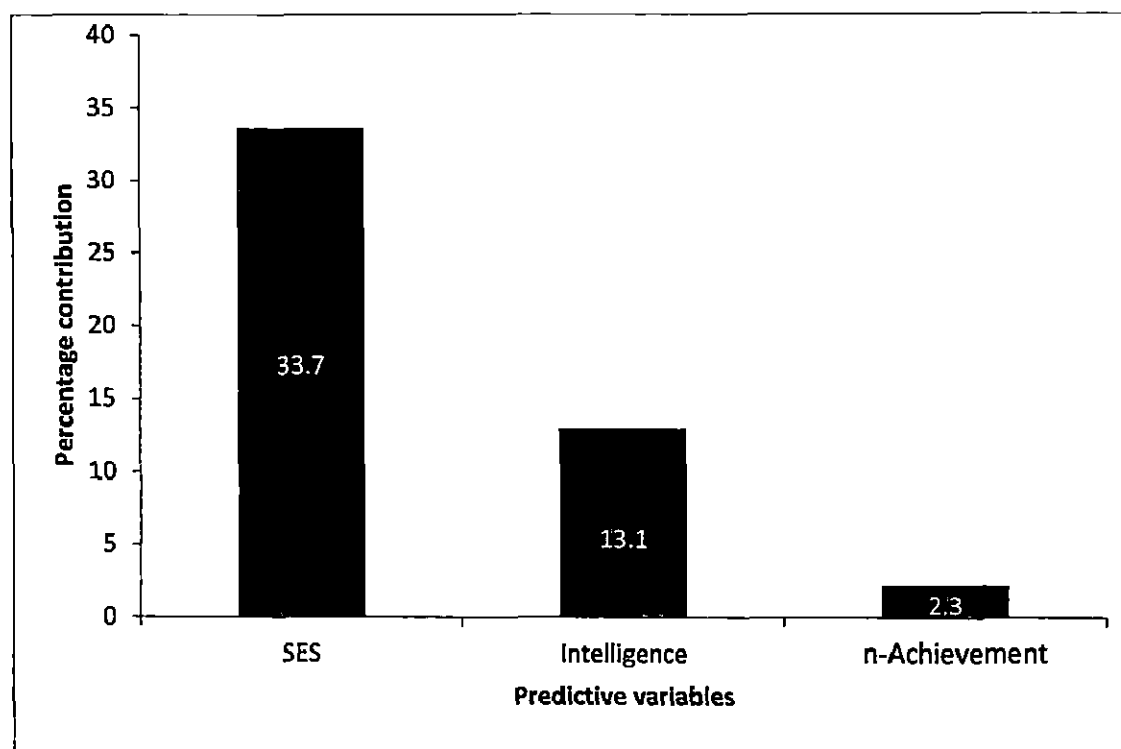
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.581	0.336	0.337	350	178.302**
2 <sup>b</sup>	0.684	0.465	0.131	349	85.864**
3 <sup>c</sup>	0.701	0.487	0.023	348	15.805**
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\* Significant at 0.01 level.

Table 4.2.4 shows the amount of variation shared by the three predictor variables socio-economic status, intelligence and n-Achievement for the total male tribal sample. The combined magnitude of the predictability is found to be 48.7% again from the same table it is clear that socio-economic status emerges as the most important contributing factor which shares 33.7% of the variance in the criterion variable whereas intelligence shares only 13.1% of the variance. The least contribution is of n-Achievement with the magnitude of 2.3%. All the three predictors are being significant

at 0.01 level of confidence,  $F = 178.302$ ,  $85.864$  and  $15.805$  for the socio-economic status, intelligence and n-Achievement respectively. The findings of the total male sample can be persuasively understood in the light of the discussion for the total sample as the preference of the predictor variables is same in both the cases. The contribution of all the three predictive variables in the criterion variable school achievement for the total male sample can be graphically shown as follows.

**Figure 4.2.2: Percentage contribution of the predictor variables in the criterion variable school achievement for the total male sample**



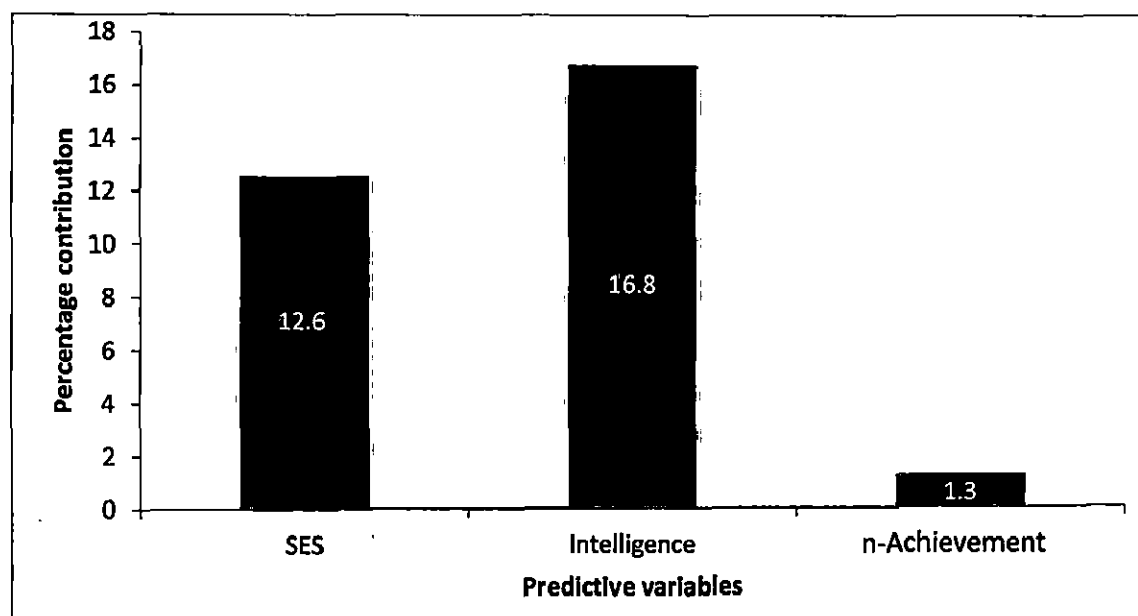
So the formulated hypothesis, '*None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample*', is not accepted.

**Table 4.2.5: Summary of ANOVA for final model**

Model		SS	df	MS	F-change
1. <sup>a</sup>	Regression	27756.364	3	9252.121	112.081 <sup>**</sup>
	Residual	28726.908	348	82.549	
	Total	56483.273	351		
a. Predictors: (Constant), Socio-economic status, intelligence and need-achievement.					

<sup>\*\*</sup>Significant at 0.01 level.

**Figure 4.2.3: Percentage contribution of the predictor variables in the criterion variable school achievement for the total female sample**



For the total female sample intelligence emerges as the strongest predictor of school achievement. Intelligence has been considered as a single most important factor that has its impact on almost all the dimensions of an individual's life. Researchers usually attribute intelligence as a great contributor (50-70%) of academic excellence. The obtained results are supported by the findings of Sween, 1984; Karile, and Harnek, 1988; Mian Shamshad, 1988; Sharma, Maduri, 1988; Kumar, Rajeev, 1989; Singh, 1989; Shah, 1990; Chadha, 1990; Devi Ujwala, 1990; Shah, 1990; Murray, 1994; Colom, and Mendoza, 2006; Spinath, 2006; Ian, 2007; Laidra, 2007; Panday and Ahmad, 2008; and Habibollah, 2010.

Socio-economic status was found to be the second significant predictor of school achievement among these tribal females. The adolescent girls from higher socio-economic backgrounds were able to enjoy the luxury of education in the schools. As their parents have a good attitude towards educating their female children. The results are alike with the findings of Ganguly Malabika, 1989; Maqsud and Rouhani, 1991; Davis-Kean, 2005; Mullah, 2007; Lacour and Tissington, 2011; Pandey, (2011); Ahmad, and Khan, 2012; Kumar, 2013; Yadav, 2013; Ewumi, 2014. The contribution of n-Achievement in both the groups is significantly less than intelligence and socio-economic status; n-Achievement contributes only 2.3% of variation in total male group and 1.3% in the total female group. These tribal pupils remain isolated and secluded from the hustle and bustle of the cities and usually within their social meliue. Thus,

having a meagre exposure to find out new avenues of satisfactory achievement, this can be a reason as why n-Achievement contributes a little in their achievement. The findings are in line with the results shown by Sinha, 1970; Chaudhari, and Jain, 1975; Elias and Long, 1984; Tella, 2007; Ahmad, 2008; Verma, 2012; Hornstra, 2012; Begum, and Nasrin, 2013.

Thus, the set hypothesis, "*None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample*", stands rejected.

**Table 4.2.8: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	10011.439	3	3337.146	39.736 <sup>**</sup>
	Residual	22675.221	270	83.982	
	Total	32686.661	273		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

<sup>\*\*</sup>Significant at 0.01 level.

**Table 4.2.9: Regression Coefficient<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	25.354	3.145		8.061
SES	0.143	0.032	0.236	4.464 <sup>**</sup>
Intelligence	0.890	0.126	0.386	7.051 <sup>**</sup>
n-Achievement	0.055	0.025	0.121	2.225 <sup>**</sup>

<sup>a</sup>Dependent variable: School achievement.

<sup>\*\*</sup>Significant at 0.01 level.

The ANOVA table 4.2.8 reveals that the model for prediction of school achievement for the total female sample involving three predictor variables socio-economic status, intelligence and n-Achievement explains significant variance due to the regression as can be inferred by significant F-ratio (39.736) given in the above said table. It means that for the total female sample, these three predictors can be used as significant predictors to predict school achievement of the similar population. Moreover, the table

4.2.9 shows that the regression coefficients of the three predictors are positive and significant, indicating that the variation due to these predictive variables will cause the positive and significant change in the school achievement.

The regression equation to predict school achievement scores of the total female sample can be expressed in terms of the linear combination of the significant predictive variables as follows:

$$Y = 25.354 + 0.236X_1 + 0.386X_2 + 0.121X_3$$

Where:

Y = School achievement score.

$X_1$  = Socio-economic status score.

$X_2$  = Intelligence score.

$X_3$  = n-Achievement scores.

#### 4.2.4. For the total sample of Jammu division:

**HO<sub>4</sub>:** *"None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Jammu division"*

To verify the above hypothesis the results of the stepwise regression analysis treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total sample of Jammu division is presented in the tabular form as below.

**Table 4.2.10: Stepwise regression analysis between the predictive variables and the criterion variables (total sample of Jammu division)**

Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.567	0.319	0.321	330	156.345**
2 <sup>b</sup>	0.661	0.433	0.115	329	67.381**
3 <sup>c</sup>	0.677	0.454	0.022	328	13.301**
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

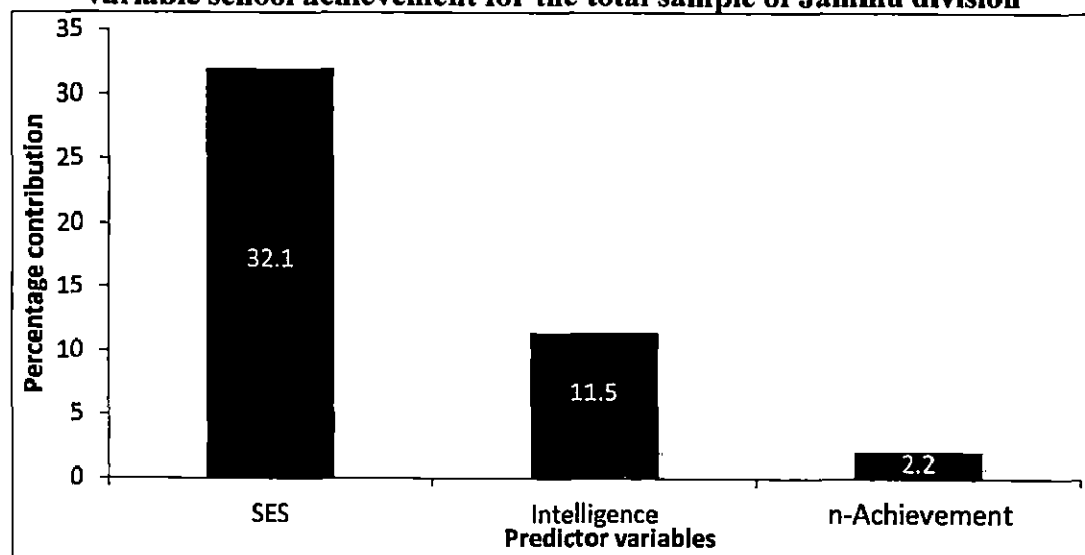
\*\*Significant at 0.01 level.

Table 4.2.10 illustrates the results of regression analysis; it is evident that the predictor variables socio-economic status, intelligence, and n-Achievement are the significant predictors of school achievement. The magnitude of their contribution is found to be 45.9% as represented by the multiple regression factor  $R^2$  shared by the three predictor variables socio-economic status, intelligence and n-Achievement. Again from the same table it is clear that socio-economic status is the important contributing variable for the total sample of Jammu division. It shares 32.1% of the variance in the criterion variables school achievement. This share is significant at 0.01 level of confidence ( $F=156.345$ ). The intelligence contributes 11.5% of the variance in the criterion variable which is also significant at 0.05 level of significance ( $F=67.381$ ). The contribution of the n-Achievement is lower than the socio-economic status and intelligence it only contributes 2.2% of the variance in the criterion variable school achievement. This share is also significant at 0.01 level with ( $F=13.301$ ).

Thus, the formulated hypothesis “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Jammu division” is not accepted.

The contribution of all the three predictor variables to the criterion variable school achievement for the tribal sample of Jammu division can be graphically represented as follows:

**Figure 4.2.4: Percentage contribution of the predictor variables in the criterion variable school achievement for the total sample of Jammu division**



Socio-economic status emerges as the most important and significant predictor of the school achievement for the total tribal sample of Jammu division. It clearly indicates that the initiatives adopted by the government for the upliftment of these tribals and the parental investment for educating their wards has a significant effect on the school achievement of these students. Intelligence remains, all-time favourite variable among educational psychologists for predicting the school achievement and in the above case it also emerged a good predictor for this sample. While as the contribution of n-Achievement has escalated among the tribal sample of the Jammu division. These findings are in corroboration with the findings of Butt and Gupta; and Chhetri, (2013); Kao and Thompson; (2003).

**Table 4.2.11: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	21779.729	3	7259.910	92.672**
	Residual	25695.437	328	78.340	
	Total	47475.166	331		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

**Table 4.2.12: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	20.122	3.104		6.483
SES	0.233	0.022	0.454	10.647**
Intelligence	0.710	0.099	0.315	7.155**
n-Achievement	0.084	0.023	0.154	3.647**

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.

From the ANOVA table 4.2.11, the obtained F-ratio (92.672) is significant at 0.01 level of confidence. It candidly reveals that the model of prediction with all the three variables accounted for significant variance due to regression in criterion variable is statistically significant. This shows that this model can be used to predict the school achievement of the same population. The table 4.2.12 shows that the regression coefficients are positive and significant. It indicates that any change in the values of the

above mentioned predictor variables will cause a significant and positive change in the criterion variable school achievement for the said sample.

The regression equation to predict school achievement of the total tribal sample of Jammu division can be expressed in terms of the significant predictors as below.

$$Y = 20.122 + 0.454X_1 + 0.315X_2 + 0.154X_3$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

#### 4.2.5. For total male sample of Jammu division:

**HO<sub>4</sub> a:** "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample of Jammu division"

In order to verify the set hypothesis stepwise regression analysis was performed, treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total Male sample of Jammu division. The calculated values are presented as below.

**Table 4.2.13: Stepwise regression analysis between the predictive variables and the criterion variables (total male sample of Jammu)**

Model	R	Adjusted R Square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.637	0.402	0.406	181	123.514**
2 <sup>b</sup>	0.698	0.482	0.082	180	28.708**
3 <sup>c</sup>	0.718	0.507	0.028	179	10.314**
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					
** Significant at 0.01 level.					

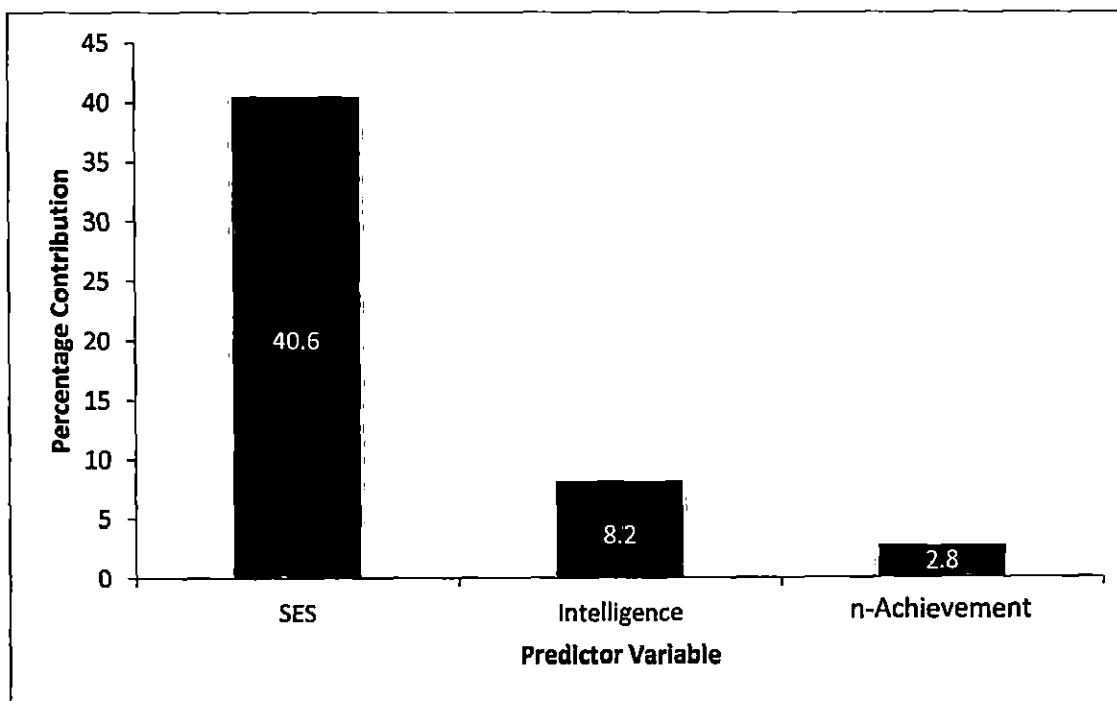
All the three predictor variables SES, intelligence, and n-Achievement were found to be the significant predictors of school achievement (Table 4.2.13). The contributory magnitude was found to be 50.7% as represented by the multiple regression factor R<sup>2</sup>



shared by the three predictor variables socio-economic status, intelligence and n-Achievement. Again from the same table it is clear that socio-economic status is the important contributing factor for the total male sample from Jammu division. It shares 40.6% of the variance in the criterion variables school achievement. This share is significant at 0.01 level ( $F=123.514$ ). The intelligence contributes 8.2% of the variance in the criterion variable which is also significant at 0.01 level ( $F=28.708$ ). The contribution of the n-Achievement is lower than the socio-economic status and intelligence its variance contribution is only 2.8% in the criterion variable school achievement. This share is significant at 0.01 level ( $F=10.314$ ).

The contribution of all the three predictor variables to the criterion variable school achievement for total male sample of Jammu division can be graphically represented as follows:

**Figure 4.2.5: Percentage contribution of the predictor variables in the criterion variable school achievement for the total male of Jammu division**



Thus, the formulated set hypothesis ( $H_{04a}$ ): *“None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample of Jammu division”* is not accepted.

**Table 4.2.14: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	15524.357	3	5174.786	63.433**
	Residual	14602.572	179	81.579	
	Total	30126.929	182		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

**Table 4.2.15: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	19.385	4.217		4.597
SES	0.267	0.027	0.541	9.790**
Intelligence	0.578	0.123	0.265	4.686**
n-Achievement	0.098	0.030	0.171	3.212**

<sup>a</sup> Dependent variable: School Achievement.

\*\*Significant at 0.01 level.

From the ANOVA table 4.2.14 it is clear that the model of prediction with all the three variables attributing significant variance due to regression. This is significant at 0.01 level of confidence with F value of 63.433. This shows that this model can be used to predict significantly the school achievement of the same population. The table 4.2.15 of regression coefficient shows that all the coefficients are positive and significant. It indicates that change in the values of above mentioned three predictors will cause significant and positive change in the criterion variable school achievement for the said sample.

The regression equation to predict school achievement of the total male sample of Jammu division can be expressed in terms of the significant predictors as below

$$Y = 19.385 + 0.541X_1 + 0.265X_2 + 0.171X_3$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

#### 4.2.6. For the total female sample of Jammu division:

**HO<sub>4</sub> b:** “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample of Jammu division”

The results of the stepwise regression analysis treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total female sample of Jammu division is presented in the tabular form as below:

**Table 4.2.16: Stepwise regression analysis between the predictive variables and the criterion variables (total female sample of Jammu)**

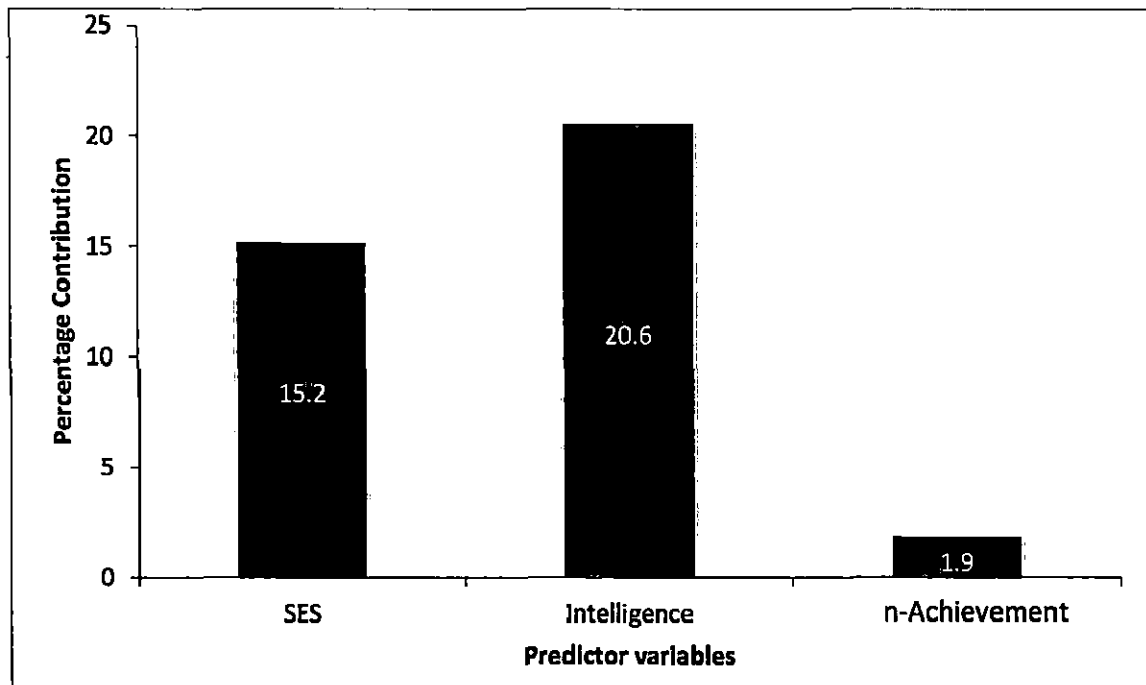
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.390	0.147	0.152	147	26.428**
2 <sup>b</sup>	0.599	0.349	0.206	146	46.829**
3 <sup>c</sup>	0.614	0.365	0.019	145	4.478*
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*Significant at 0.05 level, \*\*Significant at 0.01 level.

From the analysis of the results presented in the table 4.2.16 it is evident that the predictor variables socio-economic status, intelligence, and n-Achievement are the significant predictors of school achievement. The magnitude of this relationship is found to be 37.7% as represented by the multiple regression factor R<sup>2</sup> shared by the three predictor variables socio-economic status, intelligence and n-Achievement. Again from the same table it is clear that intelligence is the important contributing variable for the total female sample of Jammu division. It shares 20.6% of the variance in the criterion variables school achievement. This share is significant at the 0.05 level (F= 46.829). The socio-economic status contributes 15.2% of the variance in the criterion variable which is also significant at 0.01 level (F=26.428). The contribution of the n-Achievement is lower than the socio-economic status and intelligence its contribution is only 1.9% of the variance in the criterion variable school achievement. This share is significant at 0.01 level (F = 4.478).

The contribution of all the three predictor variables to the criterion variable school achievement for total female sample of Jammu division can be graphically represented as follows:

**Figure 4.2.6 Percentage contribution of the predictor variables in the criterion variable school achievement for the total female sample of Jammu division**



Thus the formulated hypothesis (HO<sub>4</sub> b) “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample of Jammu division” is not accepted.

**Table 4.2.17: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1 <sup>a</sup>	Regression	5994.409	3	1998.136	29.305**
	Residual	9886.799	145	68.185	
	Total	15881.208	148		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

**Table 4.2.18: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	21.636	4.398		4.920
SES	0.140	0.037	0.257	3.758**
Intelligence	0.946	0.164	0.414	5.770**
n-Achievement	0.074	0.035	0.152	2.116*

<sup>a</sup> Dependent variable: School achievement.

\*Significant at 0.05 level, \*\*Significant at 0.01 level.

From the ANOVA table 4.2.17 it is clear that the model of prediction which has all the three variables attribute significant variance due to regression. This prediction is significant at 0.01 level of confidence with “F-value” of 29.305. This shows that this model can be used to predict significantly the school achievement of the same population. The Table 4.2.18 of regression coefficient shows that all the coefficients are positive and significant. It indicates that the change in the values of the three above mentioned significant predictors will cause significant and positive change in the criterion variable school achievement for the said sample.

The regression equation to predict school achievement of the total female sample of Jammu division can be expressed in terms of the significant predictors as below

$$Y = 21.636 + 0.257X_1 + 0.414X_2 + 0.152X_3$$

Where:

Y = School achievement Score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

For both the male and female tribal groups of Jammu division it is evident that all the three predictor variables were found to be significant predictors of school achievement. For the total male sample of Jammu socio-economic status shares a bigger share (40%)

in comparison to other two variables while as in female tribal sample of Jammu division intelligence emerges as the strongest predictor (20.6%) of school achievement. While as, the contribution of n-Achievement remains approximately same. A plethora of literature supports the view that intelligence and SES are the strongest predictor of school achievement, these findings are supported by Chopra, 1982; White, 1982; Coleman, 1988; Karile and Harnek, 1988; Sharma and Maduri, 1988; Shah, 1990; Kareem, 1991; Maqsd and Rouhani, 1991; Rani Radha, 1992; Murray, 1994; Singh and Singh, 1995; Jersey, 1997; Khallad, 2000; Kao and Thompson, 2003; Sirin, 2005; Ali et al., 2006; Bohon, et al., 2006; Colom, and Mendoza, 2006; Spinath, 2006; Ian, 2007; Frederickson, and Petrides, 2008; Laidra, 2007; Strenze, 2007; Panday and Ahmad, 2008; Randall and Bohnert 2009; Habibollah, 2010; Juma, et al., 2012; Kilpatric, 2012; Olatunji, and Olah, 2012; and Ahmer and Anwar, 2013.

#### 4.2.7. For the total sample of Kashmir division:

**HO<sub>5</sub>:** *"None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Kashmir division"*

The results of the stepwise regression analysis treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total sample of Kashmir division are presented in tabular form as below:

**Table 4.2.19: Stepwise regression analysis between the predictive variables and the criterion variables (total sample of Kashmir)**

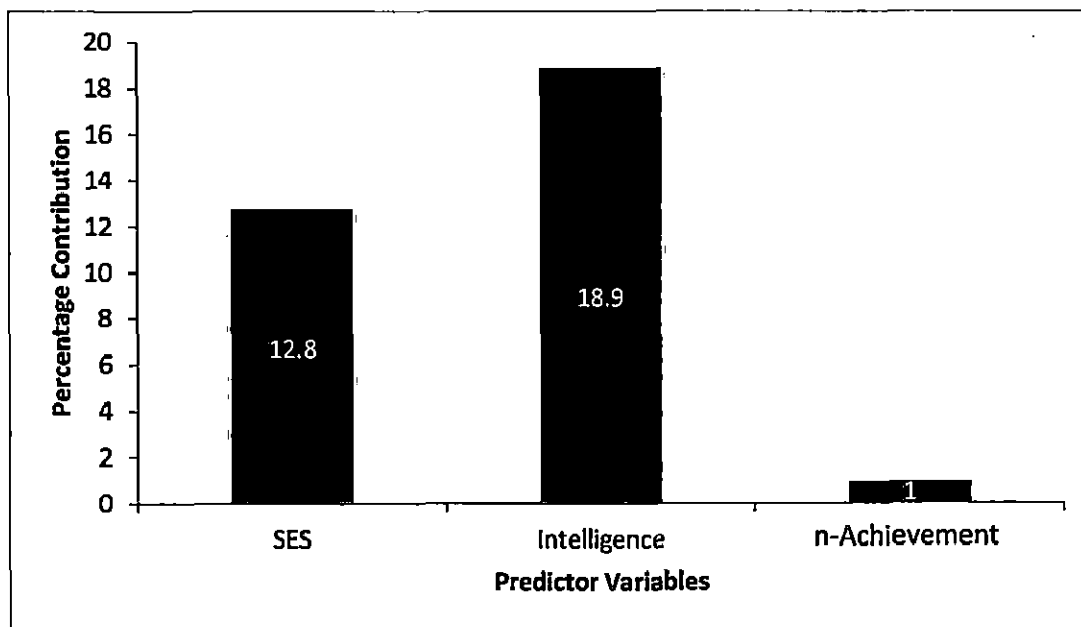
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.357	0.125	0.128	292	42.728**
2 <sup>b</sup>	0.563	0.312	0.189	291	80.490**
3 <sup>c</sup>	0.572	0.320	0.010	290	4.482*
a. Predictors: (Constant), Socio-economic status. b. Predictors: (Constant), Socio-economic status, intelligence. c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*Significant at 0.05 level, \*\* Significant at 0.01 level.

Glance at table 4.2.19 shows that the predictive variables socio-economic status, intelligence and n-Achievement are found to be the significant predictors of school achievement for the total tribal sample of Kashmir division. The magnitude of the predictability is found to be 32.0 %. Again from the same table it is clear that intelligence comes out to be the most important contributing factor which contributes 18.9% of the variance in the criterion variable, whereas socio-economic status shares only 12.8% of the variance, both are being significant at 0.01 level,  $F = 80.490$  and  $42.728$  respectively. The n-Achievement shares only 1.0% of variance in the said sample which is also significant at 0.05 level, with  $F = 4.482$ .

The contribution of all the three predictive variables in the criterion variable school achievement for the total sample of Kashmir division can be graphically shown as follows.

**Figure 4.2.7: Percentage contribution of the predictor variables in the criterion variable school achievement for the total tribal sample of Kashmir division**



Thus, the above hypothesis ( $H_{O5}$ ) "*None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total sample of Kashmir division*" is not accepted.

**Table 4.2.20: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	12697.699	3	4232.566	46.982**
	Residual	26125.961	290	90.090	
	Total	38823.660	293		
a. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

**Table 4.2.21: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	23.054	3.121		7.386
SES	0.177	0.035	0.248	4.998**
Intelligence	0.933	0.118	0.411	7.919**
n-Achievement	0.051	0.024	0.109	2.117*

<sup>a</sup> Dependent variable: School achievement.

\*Significant at 0.05 level, \*\*Significant at 0.01 level.

The table 4.2.20 reveals that the prediction model for the total tribal sample of the Kashmir division with all the three predictors i.e. socio-economic status, intelligence and n-Achievement accounted for the significant variance in school achievement due to regression is found to be significant at 0.01 level of confidence. Thus, this model helps in prediction of school achievement of the same group. The positive regression coefficients presented in the table 4.2.21 indicate that the change in value of prediction would result in consequential positive changes in the criterion variable i.e. school achievement of the said group.

The regression equation to predict school achievement of the tribal students of Kashmir division can be expressed in terms of the significant predictors as below

$$Y = 23.054 + 0.248X_1 + 0.411X_2 + 0.109X_3$$

Where:

Y = School achievement score.



$X_1$  = Socio-economic status score.

$X_2$  = Intelligence score.

$X_3$  = n-Achievement score.

#### 4.2.8. For the total male sample of Kashmir division:

**HO<sub>5</sub> a:** "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total male sample of Kashmir division"

The results of the stepwise regression analysis treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total tribal male sample of Kashmir division are presented in the tabular form as below

**Table 4.2.22: Stepwise regression analysis between the predictive variables and the criterion variables (total male sample of Kashmir division)**

Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.409	0.163	0.168	167	33.635**
2 <sup>b</sup>	0.636	0.397	0.237	166	66.088**
3 <sup>c</sup>	0.646	0.406	0.012	165	3.423***
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

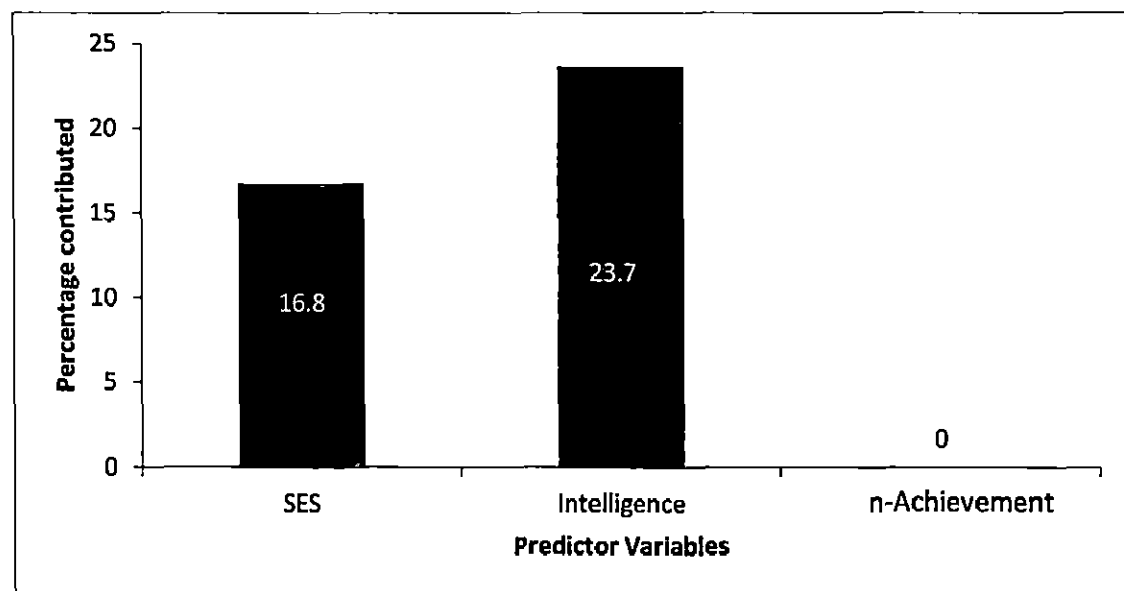
\*\*Significant at 0.01 level, \*\*\*NS. (Significant at 0.06 level).

The results shown in table 4.2.22 reveal that the predictive variables intelligence and SES are found to be the significant predictors of school achievement for the total tribal male sample of Kashmir division. The magnitude of the predictability is found to be 40.5 %. Again from the same table it is clear that intelligence comes out to be the most important contributing factor which shares 23.7% of the variance in the criterion variable, whereas socio-economic status shares only 16.8% of the variance, both are being significant at 0.01 level,  $F = 66.088$  and  $33.635$  respectively. The n-Achievement is eliminated from the model of prediction as it shares no statistically significant variance in the school achievement for the total tribal male sample of Kashmir

division. These findings are in same tune with the findings of Sidhu and Parminder (2005), Wang and Xing (2009).

The contribution of all the three predictive variables in the criterion variable school achievement for the total male sample of Kashmir division can be graphically shown as follows.

**Figure 4.2.8: Percentage contribution of the predictor variables in the criterion variable school achievement for the total male sample of Kashmir division**



Thus the formulated hypotheses **HO<sub>5</sub> a**: “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Male sample of Kashmir division” stands partly rejected for socio-economic status and intelligence and accepted regarding the predictive power of n-Achievement.

**Table 4.2.23: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	9088.169	2	4544.084	56.416**
	Residual	13370.671	166	80.546	
	Total	22458.840	168		

a. Predictors: (Constant), Socio-economic status, intelligence.

\*\*Significant at 0.01 level.

**Table 4.2.24: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	24.798	2.686		9.233
SES	0.205	0.044	0.285	4.613**
Intelligence	1.103	0.136	0.502	8.129**
n-Achievement	--	--	--	--

<sup>a</sup>Dependent variable: School achievement.

\*\*Significant at 0.01 level.

The table 4.2.23 depicts that the prediction model for the total male sample of Kashmir division has only two predictors i.e. socio-economic status and intelligence accounted for the significant variance due to regression. It is significant at 0.01 level of confidence as indicated by the F- ratio (56.416). Thus, this model helps in prediction of school achievement of the same group. The positive regression coefficients presented in the table 4.2.24 indicate that the change in value of prediction would result in consequential positive changes in the criterion variable i.e. school achievement of the said group.

The regression equation to predict school achievement of these tribal students can be expressed in terms of the significant predictors as below

$$Y = 24.798 + 0.285X_1 + 0.502X_2$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

#### 4.2.9. For the total female sample of Kashmir division:

**HO<sub>5</sub> b:** "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample of Kashmir division"

The results of the stepwise regression analysis treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive

variables for the total female sample of Kashmir division are represented in the tabular form as below:

**Table 4.2.25: Stepwise regression analysis between the predictive variables and the criterion variables (total female sample of Kashmir division)**

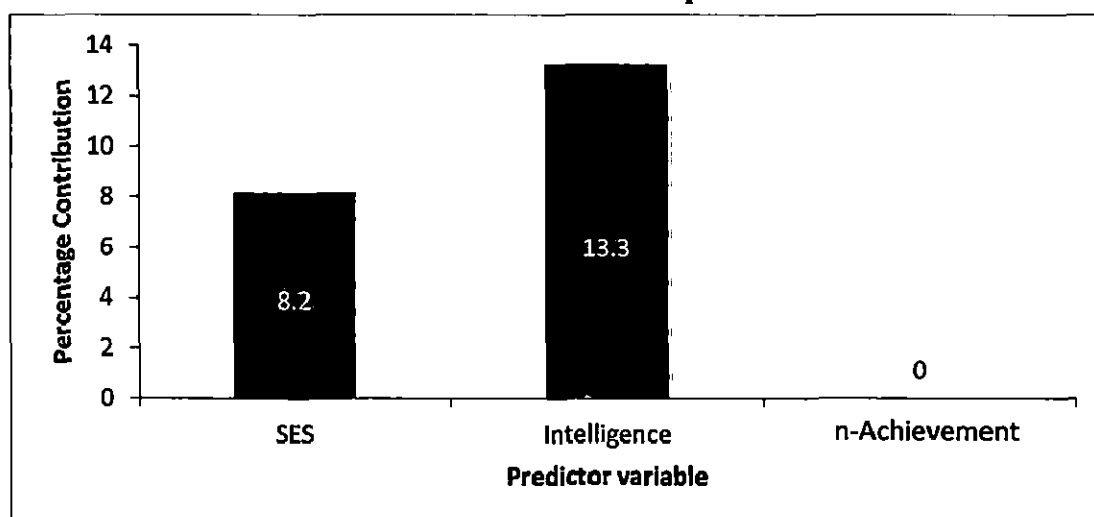
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.287	0.075	0.082	123	11.059**
2 <sup>b</sup>	0.465	0.203	0.133	122	20.738**
3 <sup>c</sup>	0.476	0.207	0.011	121	1.687***
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level, \*\*\*NS (Significant at 0.196 level).

The results given in table 4.2.25 reveal that only two predictive variables SES and intelligence are found to be the significant predictors of school achievement for the total tribal female sample of Kashmir division. The magnitude of the predictability is found to be 21.6%. Again from the same table it is clear that intelligence comes out to be the most important contributing factor which shares 13.3% of the variance in the criterion variable, whereas SES shares only 8.2% of the variance, both are being significant at 0.01 level,  $F = 20.738$  and  $11.059$  respectively. The n-Achievement is eliminated from the model of prediction as it shares no significant variance in the school achievement of the total tribal female sample of Kashmir division.

The contribution of all the three predictive variables in the criterion variable school achievement for the Gujjar sample can be graphically shown as follows.

**Figure 4.2.9: Percentage contribution of the predictor variables in the criterion variable school achievement for the total female sample of Kashmir division**



Thus the formulated hypothesis (HO<sub>5</sub> b) “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total female sample of Kashmir division” is partially rejected. As out of three predictor variables only two SES and intelligence emerges out as the significant predictor of school achievement, while as n-Achievement has no significant effect on the criterion variable.

**Table 4.2.26: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	3531.319	2	1765.660	16.786**
	Residual	12832.553	122	105.185	
	Total	16363.872	124		

a. Predictors: (Constant), Socio-economic status, intelligence.

\*\*Significant at 0.01 level.

**Table 4.2.27: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	31.429	3.612		8.701
SES	0.159	0.058	0.224	2.757**
Intelligence	0.907	0.199	0.370	4.554**
n-Achievement	---	---	----	----

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.

The table 4.2.26 depicts that the prediction model for the total female sample of Kashmir division has only two significant predictors’ i.e. socio-economic status and intelligence accounted for the significant variance in school achievement due to regression. It is significant at 0.01 level of confidence as indicated by the F- ratio (16.786). Thus, this model helps in prediction of school achievement of the same group. The positive regression coefficients presented in the table 4.2.27 indicate that any change in the value of prediction would result in consequential positive changes in the criterion variable i.e. school achievement of the said group.

The regression equation to predict school achievement of the total female sample of Kashmir division can be expressed in terms of the significant predictors as below

$$Y = 31.429 + 0.224X_1 + 0.370X_2$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

**Discussion:** In case of male and female tribal sub groups of Kashmir division only socio-economic status and intelligence emerges as the significant predictors of school achievement. In both groups intelligence emerges as the strongest predictor of school achievement 23.7% for males and 13.3% for females. The contribution of socio-economic status was found to be lower when compared with the male and female sample of Jammu division. The reason for this is the representation of tribal people (Jammu region) in government offices and the role of NGO's (TRCF) that take active part in implementing and monitoring of the schemes and policies meant for the tribal communities in the state (Butt and Gupta, 2013; Chhetri, 2013). Butt and Gupta, (2013) argued that "the tribals (Gujjars of J&K) are very affluent, highly educated and has a good number of white-collar job holders. There is not any sign of poverty, illiteracy and backwardness among the Gujar tribal people of Jammu division.

#### 4.2.10. For the total Gujar sample of Jammu division:

**HO<sub>6</sub> a:** *"None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujar sample of Jammu division".*

The results of the stepwise regression analysis calculated by treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total Gujar sample are presented in the tabular form as below.

**Table 4.2.28: Stepwise regression analysis between the predictive variables and the criterion variables (total Gujar sample of Jammu division)**

Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.559	0.309	0.312	209	94.791**
2 <sup>b</sup>	0.641	0.405	0.099	208	34.846**
3 <sup>c</sup>	0.656	0.422	0.020	207	7.105**
a. Predictors: (Constant), Socio-economic status. b. Predictors: (Constant), Socio-economic status, intelligence. c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

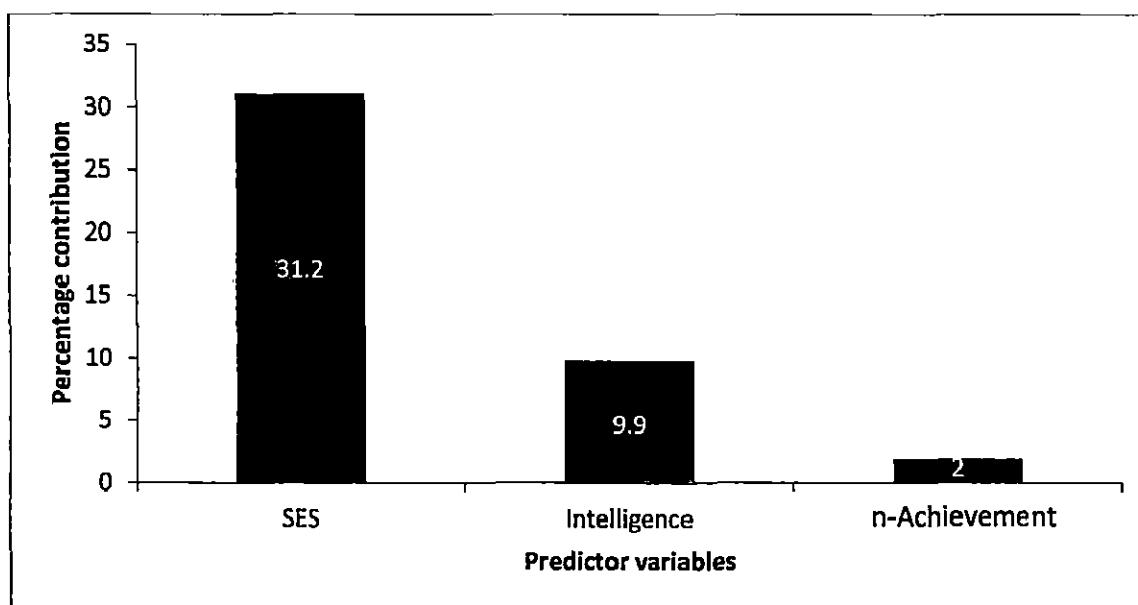
\*\*Significant at 0.01 level.

The results presented in the table 4.2.28 reveal that all the three predictor variables socio-economic status, intelligence, and n-Achievement emerges as the significant predictors of school achievement. The magnitude of this relationship is found to be 43.0% as represented by the multiple regression factor R<sup>2</sup> shared by the three predictor variables socio-economic status intelligence and n-Achievement. Again from the same table it is clear that socio-economic status is the important contributing variable for the total Gujar sample of Jammu division. It shares 31.2% of the variance in the criterion variables school achievement. This share is significant at the 0.05 level (F= 94.791). The intelligence contributes 9.9% of the variance in the criterion variable which is also significant at 0.01 level (F=34.846).

The contribution of the third predictor variable n-Achievement was found to be lower than the socio-economic status and intelligence. The contribution of n-achievement to the criterion variable school achievement is only 2.0%. This share is statistically significant at 0.01 level (F=7.105).

The contribution of all the three predictor variables to the criterion variable school achievement for the total Gujar sample of Jammu division can be graphically represented as follows:

**Figure 4.2.10: Percentage contribution of the predictor variables in the criterion variable school achievement for the total Gujjar sample of Jammu division**



Thus the set hypothesis, "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujjar sample of Jammu division", is not accepted.

**Table 4.2.29: Summary of ANOVA for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	15816.489	3	5272.163	52.116**
	Residual	20940.526	207	101.162	
	Total	36757.014	210		

a. Predictors: (Constant), Socio-economic status, intelligence.

\*\*Significant at 0.01 level.

**Table 4.2.30: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	20.091	4.314		4.657
SES	0.248	0.028	0.478	8.874**
Intelligence	0.638	0.126	0.283	5.063**
n-Achievement	0.085	0.032	0.146	2.665**

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.



From the ANOVA table 4.2.29 it is clear that the model of prediction with all the three predictor variables attributed a significant variance due to regression is significant at 0.01 level of confidence with F value of 52.116. This shows that this model can be used to predict significantly the school achievement of the same population. The table 4.2.30 shows that all the coefficients are positive and significant. It indicates that the change in the values of the three above mentioned predictors will cause significant and positive change in the criterion variable school achievement for the said/same sample.

The regression equation to predict school achievement of the total Gujjar sample of the Jammu division can be expressed in terms of the significant predictors as below:

$$Y = 20.091 + 0.478X_1 + 0.283X_2 + 0.146X_3$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

#### 4.2.11. For the total Gujjar sample of Kashmir division:

**HO<sub>7</sub>:** "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujjar sample of Kashmir division".

The results of the stepwise regression analysis obtained by treating school achievement as criterion variable and SES, intelligence and n-Achievement as the predictive variables for the total Gujjar sample are presented in the tabular form as below.

**Table 4.2.31: Stepwise regression analysis between the predictive variables and the criterion variables (total Gujjar sample of Kashmir division)**

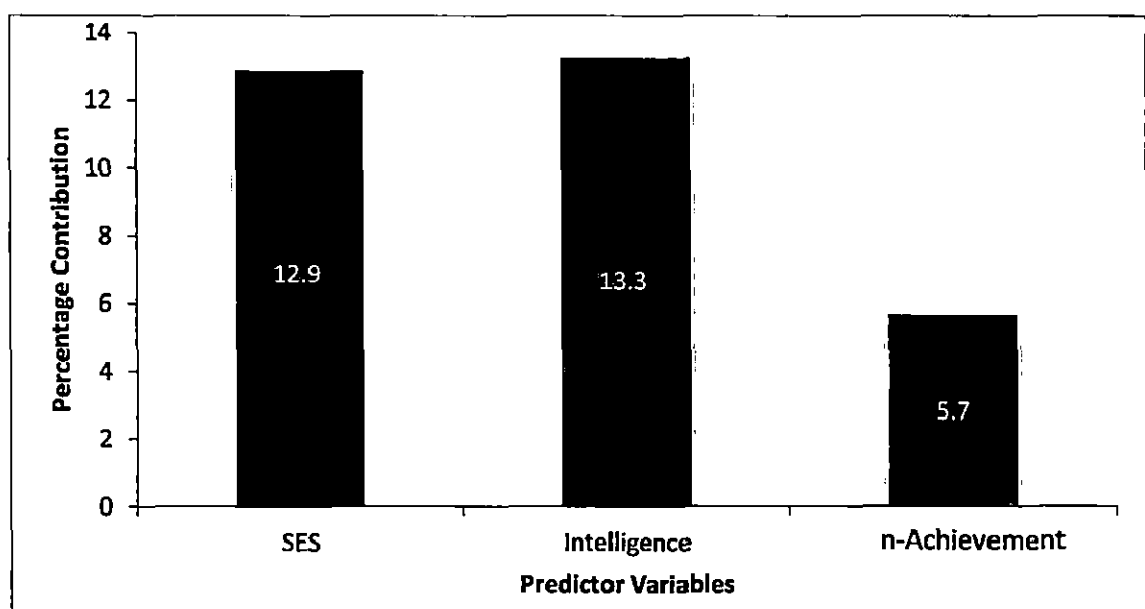
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.359	0.124	0.129	178	26.329**
2 <sup>b</sup>	0.511	0.253	0.133	177	31.811**
3 <sup>c</sup>	0.565	0.307	0.057	176	14.812**
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level.

Evident from the calculated results represented in the table 4.2.31 that the predictor variables SES, intelligence, and n-Achievement are the significant predictors of school achievement. The magnitude of this relationship is found to be 31.9% as represented by the multiple regression factor  $R^2$  shared by the three predictor variables SES, intelligence and n-Achievement. Again from the same table it is clear that intelligence is the important contributing variable for the total Gujar sample of Kashmir division. It shares 13.3% of the variance in the criterion variables school achievement. This share is significant at the 0.01 level ( $F= 31.811$ ). The socio-economic status contributes 12.9% of the variance in the criterion variable which is also significant at 0.01 level ( $F=26.329$ ). The contribution of the n-Achievement is lower than the SES and intelligence its contribution is only 5.7% of the variance in the criterion variable school achievement. This share is significant at 0.01 level ( $F = 14.812$ ).

The contribution of all the three predictor variables to the criterion variable school achievement for the total Gujar sample of Kashmir division can be graphically represented as follows:

**Figure 4.2.11: Percentage contribution of the predictor variables in the criterion variable school achievement for the total Gujar sample of Kashmir division**



Thus the formulated hypothesis  $H_{O7}$ : "None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Gujar sample of Kashmir division" stands rejected.

**Table 4.2.32: Summary of ANOVA table for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	7888.197	3	2629.399	27.468**
	Residual	16847.998	176	95.727	
	Total	24736.194	179		
a. Predictors: (Constant), Socio-economic status, intelligence.					

\*\*Significant at 0.01 level.

**Table 4.2.33: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	21.892	3.704		5.911
SES	0.153	0.045	0.220	3.373**
Intelligence	0.576	0.150	0.269	3.847**
n-Achievement	0.126	0.033	0.271	3.849**

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.

From the ANOVA table 4.2.32 it is clear that the model of prediction with all the three variables attributed significant variance due to regression to the criterion variable. This is significant at 0.01 level of confidence with F value of 27.468. This shows that this model can be used to predict significantly the school achievement of the same population. The table 4.2.33 of regression coefficient shows that all the coefficients are positive and significant. It indicates that the change in the values of the three above mentioned predictors is causing significant and positive change in the criterion variable school achievement for the said sample.

The regression equation to predict school achievement of the total tribal students of the Gujjar clan of the Kashmir division can be expressed in terms of the significant predictors as below

$$Y = 21.892 + 0.220X_1 + 0.269X_2 + 0.271X_3$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

#### 4.2.12. For the total Bakerwal sample of Jammu division:

**HO<sub>6</sub> b:** *"None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample of Jammu division"*

For the verification of above set hypothesis the results obtained by stepwise regression analysis on treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total Bakerwal sample of Jammu division are presented in the tabular form as below.

**Table 4.2.34: Stepwise regression analysis between the predictive variables and the criterion variables (total Bakerwal sample of Jammu division)**

Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.427	0.176	0.183	119	26.598**
2 <sup>b</sup>	0.667	0.435	0.262	118	55.667**
3 <sup>c</sup>	0.689	0.462	0.030	117	6.788**
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

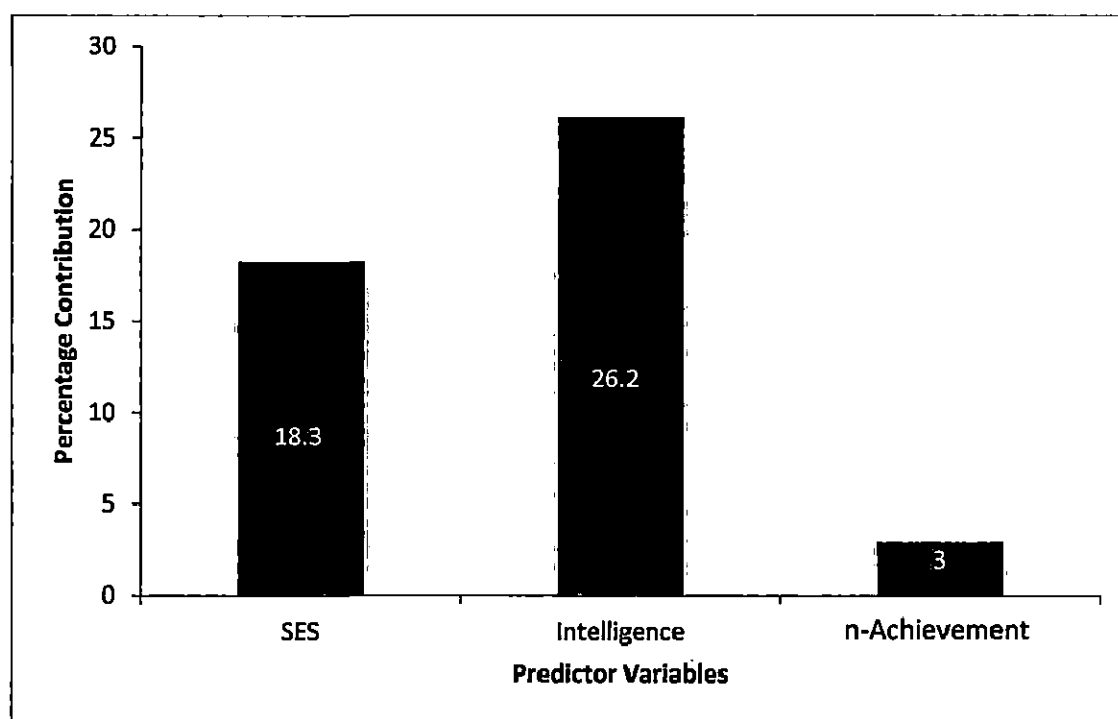
\*\*Significant at 0.01 level.

From the analysis of the results presented in the table 4.2.34 candidly reveal that the predictive variables SES, intelligence, and n-Achievement are the significant predictors of school achievement. The magnitude of this relationship is found to be 47.5% as represented by the multiple regression factor R<sup>2</sup> shared by the three predictor variables SES, intelligence and n-Achievement. Again from the same table it is clear that intelligence is the important contributing variable in the total Bakerwal sample of Jammu division. It shares 26.2% of the variance in the criterion variables school achievement. This variation is significant at the 0.01 level (F= 55.667). The SES contributes 18.3% of the variance in the criterion variable which is also significant at

0.05 level ( $F=55.667$ ). The contribution of the n-Achievement is lower than the SES and intelligence; it contributes only 3.0% of the variance in the criterion variable school achievement. This share is also significant at 0.01 level ( $F=6.788$ ).

The contribution of all the three predictor variables to the criterion variable school achievement for total Bakerwal sample of Jammu division can be graphically represented as follows.

**Figure 4.2.12: Percentage contribution of the predictor variables in the criterion variable school achievement for the total Bakerwal of Jammu division**



Thus the set hypothesis “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample of Jammu division” is not accepted.

**Table 4.2.35: Summary of ANOVA table for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	3974.224	3	1324.741	35.302**
	Residual	4390.553	117	37.526	
	Total	8364.777	120		
a. Predictors: (Constant), Socio-economic status, intelligence.					

\*\*Significant at 0.01 level.

Table 4.2.36: Regression Coefficients<sup>a</sup> for final model

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	19.129	3.994		4.789
SES	0.162	0.042	0.270	3.871**
Intelligence	1.163	0.175	0.482	6.658**
n-Achievement	0.074	0.029	0.183	2.605**

<sup>a</sup>Dependent variable: School achievement.

\*\*Significant at 0.01 level.

From the ANOVA table 4.2.35 it is clear that the model of prediction which has all the three variables Socio-economic status, intelligence and n-Achievement that attribute significant variance due to regression. These variations were found to be significant at 0.01 level of confidence with F value of 35.302. This shows that this model can be used to predict significantly the school achievement of the same population. Evident from table 4.2.36, all the regression coefficients for the final model are positive and significant. It indicates that any change in the values of the three above mentioned predictors can cause significant and positive change in the criterion variable school achievement for the said sample.

The regression equation to predict school achievement of the total Bakerwal sample of Jammu division can be expressed in terms of the significant predictors as below

$$Y = 19.129 + 0.270X_1 + 0.482X_2 + 0.183X_3$$

Where:

Y = School achievement Score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

X<sub>3</sub> = n-Achievement score.

**4.2.13. For the total Bakerwal sample of Kashmir division:**

**HO<sub>8</sub>:** *"None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample of Kashmir division"*

The results of the stepwise regression analysis obtained by treating school achievement as criterion variable and socio-economic status, intelligence and n-Achievement as the predictive variables for the total Gujar sample are presented in the tabular form as below

**Table 4.2.37: Stepwise regression analysis between the predictive variables and the criterion variables (total Bakerwal sample of Kashmir division)**

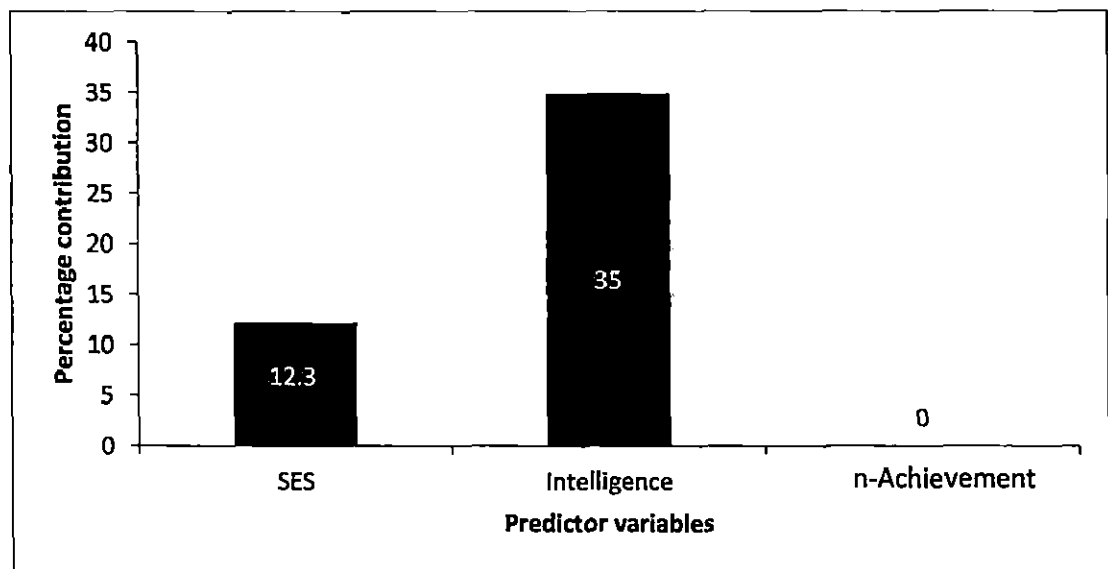
Model	R	Adjusted R square	R <sup>2</sup> change	df	F-change
1 <sup>a</sup>	0.350	0.115	0.123	112	15.662**
2 <sup>b</sup>	0.687	0.463	0.350	111	73.549**
3 <sup>c</sup>	0.688	0.459	0.001	110	0.209***
a. Predictors: (Constant), Socio-economic status.					
b. Predictors: (Constant), Socio-economic status, intelligence.					
c. Predictors: (Constant), Socio-economic status, intelligence, need-achievement.					

\*\*Significant at 0.01 level, \*\*\* N.S (Significant at 0.648 level).

The statistical values given in table 4.2.37 reveal that only two predictive variables intelligence and socio-economic status are found to be the significant predictors of school achievement for the total sample of Bakerwal clan of Kashmir division. The total magnitude of the predictability is found to be 47.2%. Again from the same table it is clear that intelligence comes out to be the most important contributing factor which shares 35.0% of the variance in the criterion variable, whereas socio-economic status shares only 12.3% of the variance, both are significant at 0.01 level,  $F = 73.549$  and  $15.662$  respectively. The n-Achievement is eliminated from the model of prediction as it shares no significant variance in the school achievement for the total sample of Bakerwal clan of Kashmir division.

The contribution of all the three predictive variables in the criterion variable school achievement for the Gujar sample can be graphically shown as follows.

**Figure 4.2.13: Percentage contribution of the predictor variables in the criterion variable school achievement for the total Bakerwal sample of Kashmir division**



Thus, the hypothesis  $H_{O8}$ : “None of the three predictor variables viz., socio-economic status, intelligence and n-Achievement will be found to be the significant predictor of school achievement for the total Bakerwal sample of Kashmir division”, stands partly rejected for socio-economic status and intelligence and accepted regarding the predictive power of n-Achievement.

**Table 4.2.38: Summary of ANOVA table for final model**

Model		SS	df	Ms	F-change
1. <sup>a</sup>	Regression	6299.355	2	3149.678	49.678**
	Residual	7037.566	111	63.401	
	Total	13336.921	113		
a. Predictors: (Constant), Socio-economic status, intelligence.					

\*\*Significant at 0.01 level.

**Table 4.2.39: Regression Coefficients<sup>a</sup> for final model**

Independent variables	Unstandardized coefficients		Standardised coefficients	t-value
	B	Standard Error	Beta $\beta$	
(Constant)	19.538	3.266		5.982**
SES	0.188	0.051	0.256	3.664**
Intelligence	1.494	0.174	0.599	8.576**
n-Achievement	--	--	--	--

<sup>a</sup> Dependent variable: School achievement.

\*\*Significant at 0.01 level.



The table 4.2.38 depicts that the prediction model for the total Bakerwal sample of Kashmir division has only two predictor variables i.e. socio-economic status and intelligence, accounted for the significant variance in school achievement due to regression. It is significant at 0.01 level of confidence as indicated by the F- ratio (49.678) given in table 4.2.38. Thus, this model can help in prediction of school achievement of the same group. The positive regression coefficients presented in the table 4.2.39 indicate that the change in value of predictors would result in consequential positive changes in the criterion variable i.e. school achievement of the said group.

The regression equation to predict school achievement of this tribal sample can be expressed in terms of the significant predictors as below

$$Y = 19.538 + 0.256X_1 + 0.599X_2$$

Where:

Y = School achievement score.

X<sub>1</sub> = Socio-economic status score.

X<sub>2</sub> = Intelligence score.

#### 4.2.14. SUMMARY OF THE SIGNIFICANT PREDICTORS OF SCHOOL ACHIEVEMENT:

Table 4.2.40 shows the total summary of the significant predictors of school achievement for all tribal groups:

**Table 4.2.40: Summary of the significant predictors of school achievement**

S. No	Groups	Step- wise Significant Predictors	Individual Significant Contribution	Total Significant Contribution
1.	Total Sample (N= 626)	SES Intelligence n-Achievement	25.6% <sup>***</sup> 14.6% <sup>**</sup> 1.7% <sup>**</sup>	41.6%
2.	Total male sample (N =352 )	SES Intelligence n-Achievement	33.7% <sup>***</sup> 13.1% <sup>**</sup> 2.3% <sup>**</sup>	49.1%
3.	Total female sample (N= 274)	SES Intelligence n-Achievement	12.6% <sup>***</sup> 16.8% <sup>**</sup> 1.3% <sup>*</sup>	29.9%
4.	Total sample of Jammu division (N= 332)	SES Intelligence n-Achievement	32.1% <sup>***</sup> 11.5% <sup>**</sup> 2.2% <sup>**</sup>	45.9%
5.	Total male sample of Jammu division (N= 183)	SES Intelligence n-Achievement	40.6% <sup>***</sup> 8.2% <sup>**</sup> 2.8% <sup>**</sup>	51.5%
6.	Total female sample of Jammu division (N= 149)	SES Intelligence n-Achievement	15.2% <sup>***</sup> 20.6% <sup>**</sup> 1.9% <sup>*</sup>	37.7%
7.	Total sample of Kashmir division (N= 294 )	SES Intelligence n-Achievement	12.8% <sup>***</sup> 18.9% <sup>**</sup> 1% <sup>*</sup>	32.7%

\*Significant at 0.05 of confidence.

\*\*Significant at 0.01 level of confidence.

\*\*\*Significant at 0.01 level of confidence.

Continued on p.147

8.	Total male sample of Kashmir division (N= 169 )	SES Intelligence n-Achievement	16.8% <sup>**</sup> 23.7% <sup>**</sup> 1.2% <sup>***</sup>	40.5%
9.	Total female sample of Kashmir division (N= 125)	SES Intelligence n-Achievement	8.2% <sup>**</sup> 13.3% <sup>**</sup> 1.1% <sup>***</sup>	21.6%
10.	Total Gujjar sample of Jammu division (N=211 )	SES Intelligence n-Achievement	31.2% <sup>**</sup> 9.9% <sup>**</sup> 2% <sup>**</sup>	43.0%
11.	Total Bakerwal sample of Jammu division (N= 121)	SES Intelligence n-Achievement	18.3% <sup>**</sup> 26.2% <sup>**</sup> 3% <sup>**</sup>	47.5%
12.	Total Gujjar sample of Kashmir division (N= 180)	SES Intelligence n-Achievement	12.9% <sup>**</sup> 13.3% <sup>**</sup> 5.7% <sup>**</sup>	31.9%
13.	Total Bakerwal sample of Kashmir division (N= 114)	SES Intelligence n-Achievement	12.3% <sup>**</sup> 35.0% <sup>**</sup> ---	47.2%

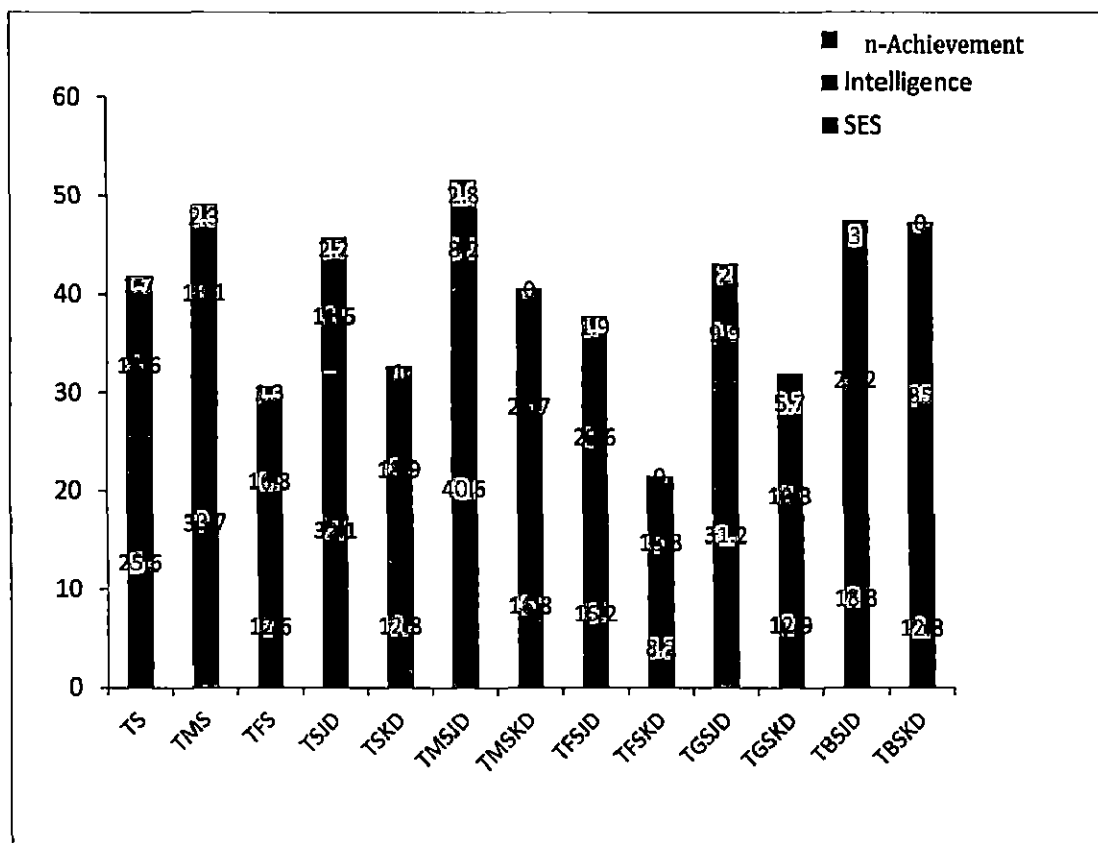
\*Significant at 0.05 of confidence.

\*\*Significant at 0.01 level of confidence.

\*\*\*Significant at 0.01 level of confidence.

The summary of regression analysis as presented in table 4.2.40 shows that in most of the groups all the three predictor variables (socio-economic status, intelligence and n-Achievement) shares a significant variation in the criterion variable. In few cases (Total male sample of Kashmir division, Total female sample of Kashmir division, and Total Bakerwal sample of Kashmir division) n-Achievement did not emerge as a significant contributor of the criterion variable, while as in the rest of the cases it has a minimal effect. Socio-economic status emerges as the most important predictor of school achievement in the Gujjar and Bakerwals tribal samples of Jammu division followed by intelligence and n-Achievement. While as intelligence emerges as the most important and significant predictor of school achievement for the tribal samples of Kashmir division. The percentage contribution of all the three predictor variables for all the groups can be graphically represented as follows.

**Figure 4.2.14: Percentage contribution of the predictor variables (intelligence, n-Achievement and socio-economic status) in the criterion Variable (school achievement) for all the tribal groups**



TS = Total Sample, TMS = Total Male Sample, TFS = Total Female sample, TSJD = Total Sample of Jammu Division, TSKD = Total Sample of Kashmir Division, TMSJD = Total Male Sample of Jammu Division, TMSKD = Total Male Sample of Kashmir Division, TFSJD = Total Female Sample of Jammu Division, TFSKD = Total Female Sample of Kashmir Division, TGSJD = Total Gujjar Sample of Jammu Division, TGSKD = Total Gujjar Sample of Kashmir Division, TBSJD = Total Bakerwal Sample of Jammu Division, TBSKD = Total Bakerwal Sample of Kashmir Division.

#### 4. C: 2 x 2 x 2 INTERACTIONAL ANALYSES

##### 4.3.1. TO STUDY THE INTERACTIONAL EFFECT OF GENDER, CLAN AND DIVISION ON SCHOOL ACHIEVEMENT OF GUJJAR AND BAKERWAL SAMPLE:

*Ho9: There will be no significant effect of gender, clan and division on school achievement of Gujjar and Bakerwal students.*

In order to see the effect of Gender, Clan and Division variation on school achievement 2 x 2 x 2 factorial analysis of variance was used, the provided results are presented in table 4.3.1 showing the main effects and interactional effects of the three independent variables i.e. Gender, Clan, and Division on school achievement.

**Table 4.3.1: Summary of 2 x 2 x 2 ANOVA (school achievement)**

Source of variation	Sum of squares (SS)	Df	Mean squares (MS)	F-ratio	Sig.
Gender (A)	151.898	1	151.898	1.165***	N.S
Clan (B)	2302.902	1	2302.902	17.661**	Sig.
Division (C)	2437.009	1	2437.009	18.690**	Sig.
A x B	1286.517	1	1286.517	9.866**	Sig.
B x C	121.901	1	121.901	0.935***	N.S
C x A	338.239	1	338.239	2.594***	N.S
A x B x C	203.661	1	203.661	1.562***	N.S
Error	80583.701	618	130.394		
Total	1887461.000	626			

\*\*\*Significant at 0.01, \*\*Not significant

##### 4.3.1.1. To study the effect of gender on school achievement of the tribal sample:

Gender in the present study has two levels of variation, i.e., male and female. In order to investigate the effect of gender on school achievement of tribal students, we take

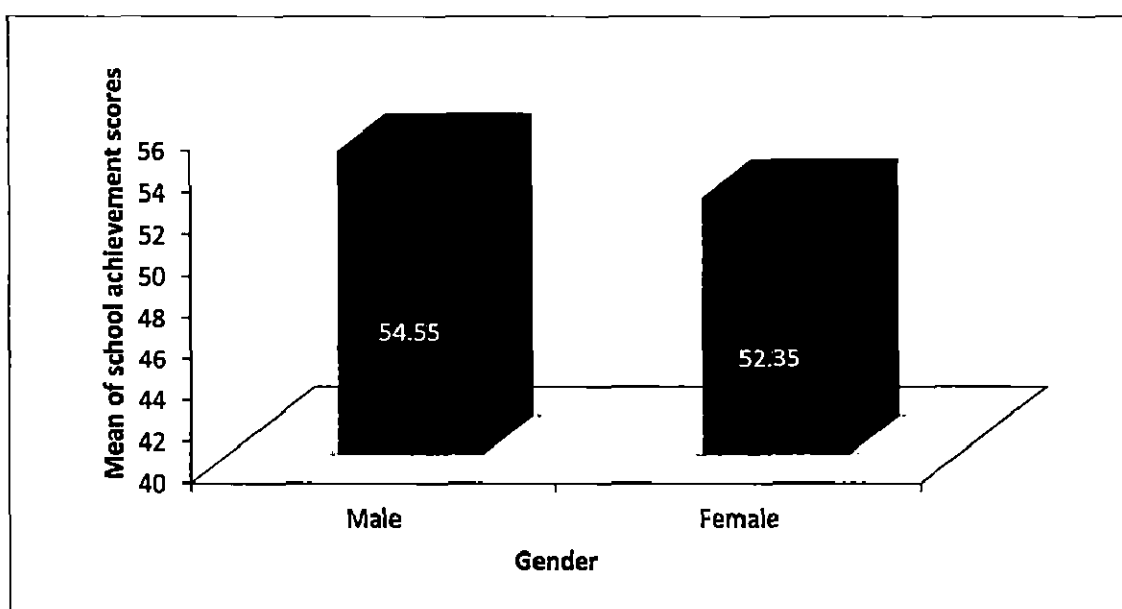
into consideration the main effect of gender from table 4.3.1. The F ratio for gender, i.e.,  $F(1, 625) = 1.165$ ,  $P > 0.05$  indicating that gender variation has no significant effect on the school achievement of tribal students. To better understand this differential effect, we compare the means of the mean values of male and female students as presented in table 4.3.2

**Table 4.3.2: Mean of means of male and female tribal samples**

Groups	Jammu		Kashmir		Mean of the means
	Gujjar	Bakerwal	Gujjar	Bakerwal	
Male	60.58	51.47	52.82	47.93	54.55
Female	53.84	53.09	51.52	50.24	52.35

Glance at table 4.3.2 reveal that the mean of the mean scores of tribal male and female groups is (54.55) and (52.35) respectively. Since the mean of the means for school achievement is higher in the male sample than in female sample ( $54.55 > 52.35$ ), but statistically there is no significant variation between the two genders regarding the school achievement. The mean of mean scores are represented graphically in the figure 4.3.1. It can safely be concluded that the variation in gender has no differential effect on school achievement of the tribal students.

**Figure 4.3.1: Comparison of the mean of school achievement scores of male and female tribal students**



#### 4.3.1.2. To study the impact of clan on the school achievement of tribal students:

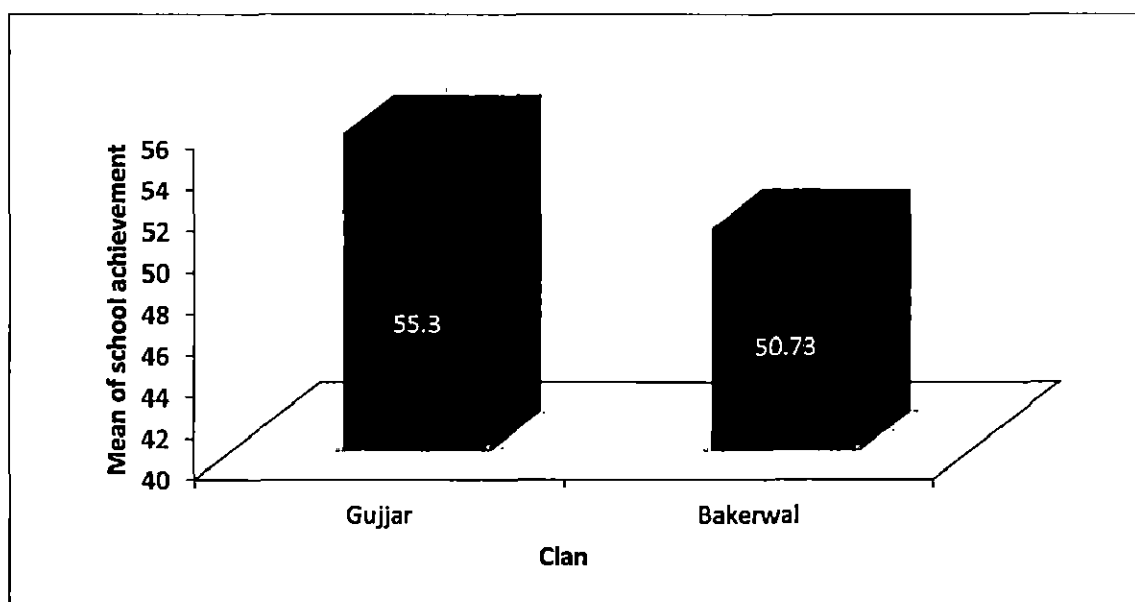
Clan in the present study is dichotomized in two ways, Gujjars Clan and Bakerwals Clan. The F-ratio of the clan variation as given in table 4.3.1 is statistically significant at 0.01 level, i.e.,  $F(1,625) = 17.661$ ,  $P < 0.05$  indicating that clan has a significant differential effect on the school achievement of tribal groups. To clarify the differential effect of clan on school achievement, the mean of the mean values of Gujjar and Bakerwal clan's is compared in table 4.3.3.

**Table 4.3.3: Mean of the means of Gujjar and Bakerwal students (Clan)**

Groups	Jammu		Kashmir		Mean of the means
	Male	Female	Male	Female	
<b>Gujjar</b>	60.58	53.84	52.82	51.52	55.30
<b>Bakerwal</b>	51.47	53.09	47.93	50.24	50.73

Controlling the effect of gender and division it is found in the table 4.3.3, that the mean of the means for the students of Gujjar clan is 55.30. That is greater than the mean of the means for Bakerwal students i.e., 50.73. It is therefore concluded that clan variation has a significant impact on school achievement of tribal students suggesting that students of Gujjars clan has better school achievement than that of Bakerwal clan. The significant mean differences can be graphically represented in figure 4.3.2.

**Figure 4.3.2: Comparison of mean school achievement scores of Gujjar and Bakerwal clans.**



#### 4.3.1.3. To study the impact of the Division on the school achievement of tribal students:

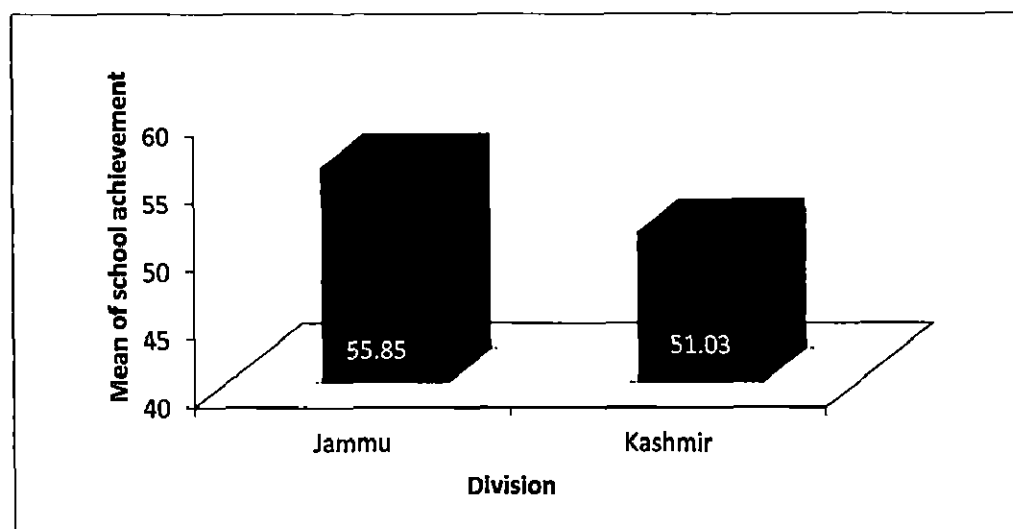
Division in the present study is dichotomized in two ways, Jammu division and Kashmir division. The F-ratio of the division variation as given in table 4.3.1 is statistically significant at 0.01 level, i.e.,  $F(1, 625) = 18.690$ ,  $P < 0.05$  indicating that division variation has a significant differential effect on the school achievement of tribal groups. To clarify the differential effect of division variation on school achievement, the mean of the mean values of Jammu division and Kashmir division is compared in table 4.3.4.

**Table 4.3.4: Mean of the means of Gujjar and Bakerwal students (division)**

Groups	Gujjar		Bakerwal		Mean of the means
	Male	Female	Male	Female	
Jammu	60.58	53.84	51.47	53.09	55.85
Kashmir	52.82	51.52	47.93	50.24	51.03

Ignoring the effect of gender and clan it is found in the table 4.3.4, that the mean of the means of school achievement scores of tribal samples of Jammu division is 55.85, which is greater than the mean of the means of Kashmir sample i.e., 51.03. It is therefore concluded that division variation has a significant impact on school achievement of tribal students suggesting that school achievement of tribal sample from Jammu division is higher than that of Kashmir division. The significant mean differences can be observed clearly in figure 4.3.3.

**Figure 4.3.3: Comparison of mean school achievement scores of Jammu division and Kashmir division**





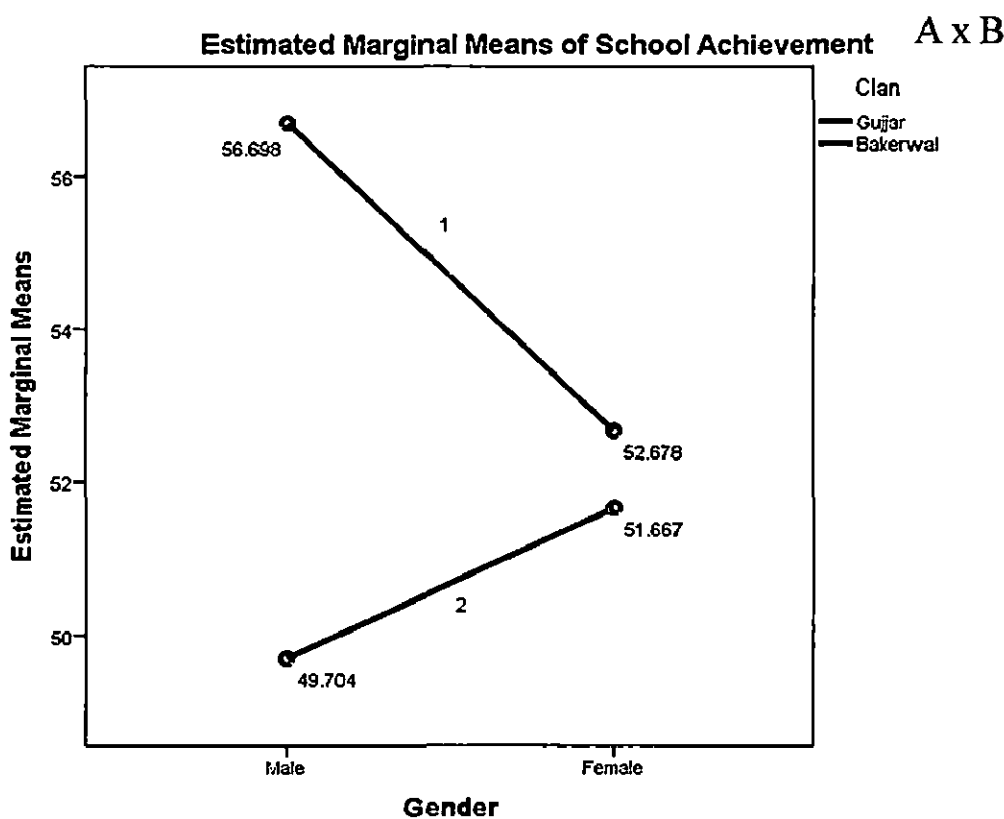
#### 4.3.1.4. To study the interactional effect of independent (Gender, Clan, and Division) variables on school achievement of tribal students:

Three way analysis of variance yield 3 two-way interactional effects and one three-way interactional effect which are discussed in the following sub sections:

##### 1.1. Gender x clan:

The F ratio interaction between gender and clan as shown in the table 4.3.1 i.e.,  $F(1, 625) = 9.866$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of Gender and Clan on school achievement of tribal students. To understand this better, we consider the line graph for this interactional effect as depicted in figure 4.3.4

**Figure 4.3.4: Line graph of gender and clan interaction**



##### Gender x Clan

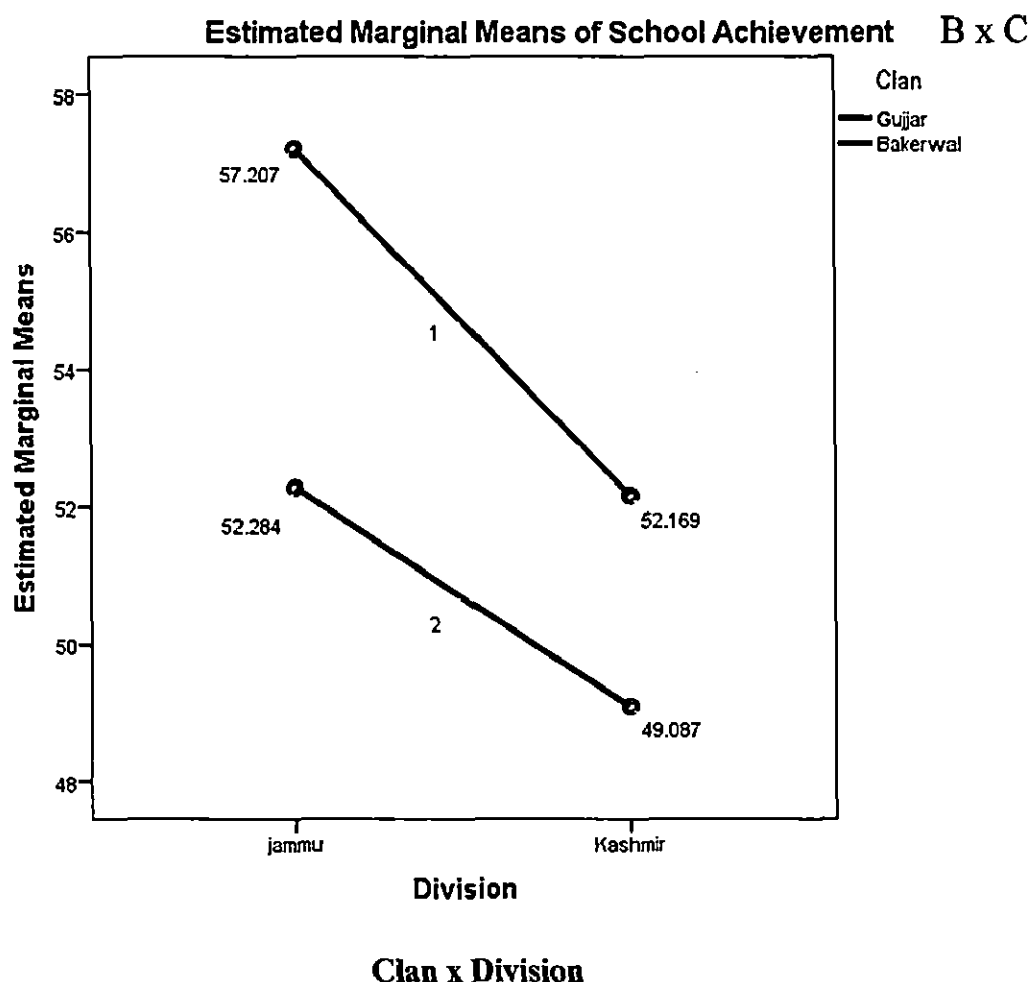
In figure 4.3.4 two interactional lines are shown marked as line 1 and line 2 representing the Gujjar and Bakerwal clan's respectively. Two levels of gender are shown on the horizontal axis (i.e., Male and Female). The end points of each line represent the means of the four conditions. Although the F-ratio for interaction between

Gender and Clan is statistically significant, we observe an ordinal interaction in which the two lines are neither parallel nor they intersect each other, which is quite different from the disordinal interaction as depicted in figure 4.3.4. This can be explained on account of highly significant F-ratio. In the figure 4.3.4 it is further clear that the school achievement of the Gujjar male sample is better than the rest three sub-groups, followed by the achievement score of the females of the same Clan. In the Bakerwal Clan females are brighter than the male ones.

### 1.2. Clan x Division:

The F ratio value of interaction between gender and clan as shown in the table 4.3.1 i.e.,  $F(1,625) = 0.935$ ,  $P > 0.05$ , indicates that there is no significant interactional effect of Clan and Division on school achievement of tribal students. To understand this better, we consider the line graph for this interactional effect as depicted in figure 4.3.5.

**Figure 4.3.5: Line graph of clan and division interaction**

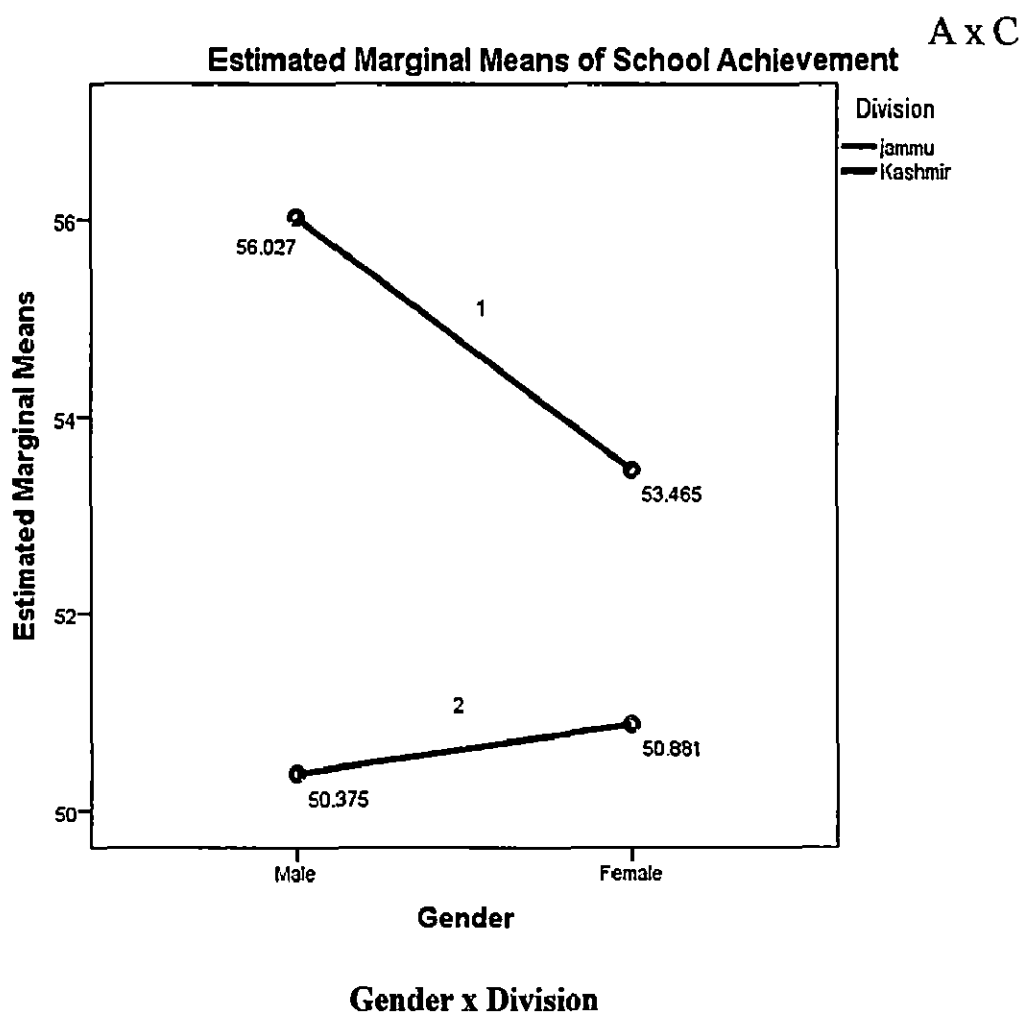


The interactional lines (line 1 and line 2) candidly reveal that both the lines are parallel (up to a great extent) indicating that there is no significant interactional effect of the clan and gender on the school achievement of the tribal sample.

### 1.3. Gender x Division:

The F ratio value of interaction between gender and division as shown in the table 4.3.1 i.e.,  $F(1,625) = 2.594$ ,  $P > 0.05$  is statistically insignificant, indicating that there is insignificant interactional effect of division and gender on school achievement of tribal students. To comprehend this in a better way, we take into consideration the line graph as depicted in figure 4.3.6.

**Figure 4.3.6: Line graph of gender and division interaction**



In the above figure two levels of Gender are shown on the horizontal axis (i.e., Male and Female). The end points of line 1 and 2 represent means of the four conditions; although the F-ratio for interaction between gender and clan is statistically significant, it is observed in the figure that the lines are not parallel, indicating a significant ordinal

interaction. This can also be explained on account of highly significant F-ratio. In the figure it is further clear that the school achievement of the male sample of Jammu division is better than the rest of the three, followed by the achievement score of the females of the same division. In the Kashmir division females are brighter than the male ones.

#### 1.4. Gender x Clan x Division (A x B x C):

Table 4.3.1 reveals that the three way interaction, i.e., A x B x C is found to be statistically insignificant with  $F(1,625) = 1.562$   $P > 0.05$ , indicating that there is no interactional effect when all these three variables are taken together.

As evident from the results the formulated null hypothesis  $H_0$ , "*There will be no significant interaction effect of gender, clan and division on school achievement of Gujjar and Bakerwal students*". Stands partially accepted for the main effect of gender (A), interactional effects of B x C, C x A, A x B x C, and rejected for the main effect of the Clan (B), Division (C) and the interactional effect of A x B.

#### Discussion:

From the table 4.3.1, it is candidly clear that gender has statistically no significant effect on the total tribal sample, while as the Clan and Division has a significant effect on the school achievement of these tribal samples. Broadly speaking the tribal sample of Jammu in general and the Gujjar sample of Jammu division in particular possess a good school achievement than the Bakerwals in general, and the total tribal sample of Kashmir division. The reason for this may be the accessibility of resources which is more accessible for the Gujjars residing near the foothills, where as the Bakerwals being itinerant thus having less access. Long, (1992); Smith, Fien & Paine, (2008) also found that highly mobile students tend to be poor and come from single-parent families where the parents have low levels of education attainment, and are more likely to be a minority and have a greater chance of qualifying for special education services (Columbus Public Schools, 2003). Although, the educational setup of the state is almost same in both these divisions with the only variation that in Jammu division the academic session starts from the month of June and that of Kashmir in November. The political arena of these divisions badly affects the school achievement of the students.

Frequent strikes in the Kashmir division may be one of the effects that resulted into the lower performance of the Kashmir sample.

#### 4.3.2. TO STUDY THE INTERACTIONAL EFFECT OF GENDER, CLAN AND DIVISION ON INTELLIGENCE OF GUJJAR AND BAKERWAL STUDENTS:

*HO<sub>10</sub>: There will be no significant interaction effect of gender, clan and division on the intelligence of Gujjar and Bakerwal students.*

In order to see the effect of gender, clan and division variation on intelligence a 2 x 2 x 2 factorial analysis of variance was used, the provided results are presented in table 4.3.5 showing the main effects and interactional effects of the three independent variables i.e. gender, clan, and division on intelligence.

**Table 4.3.5: Summary of 2 x 2 x 2 of ANOVA (intelligence)**

Source of variation	Sum of squares (SS)	Df	Mean squares (MS)	F-ratio	Sig.
Gender (A)	25.488	1	25.488	0.993	N.S
Clan (B)	362.518	1	362.518	14.119**	Sig.
Division (C)	233.231	1	233.231	9.083**	Sig.
A x B	174.596	1	174.596	6.800**	Sig.
B x C	288.752	1	288.752	11.246**	Sig.
C x A	100.525	1	100.525	3.915*	Sig.
A x B x C	3.745	1	3.745	0.146	N.S
Error	15868.263	618	25.677		
Total	150443.000	626			

*Dependent variable intelligence*

*\*\*Significant at 0.01 level, \*Significant at 0.05 level.*

##### 4.3.2.1 To study the effect of gender on Intelligence of the total tribal sample:

In order to investigate the effect of gender (male and female) on intelligence of tribal students, we take into consideration the main effect of gender from table 4.3.5 The F ratio for gender, i.e.,  $F(1, 625) = 0.993$ ,  $P > 0.05$  indicating that gender variation has

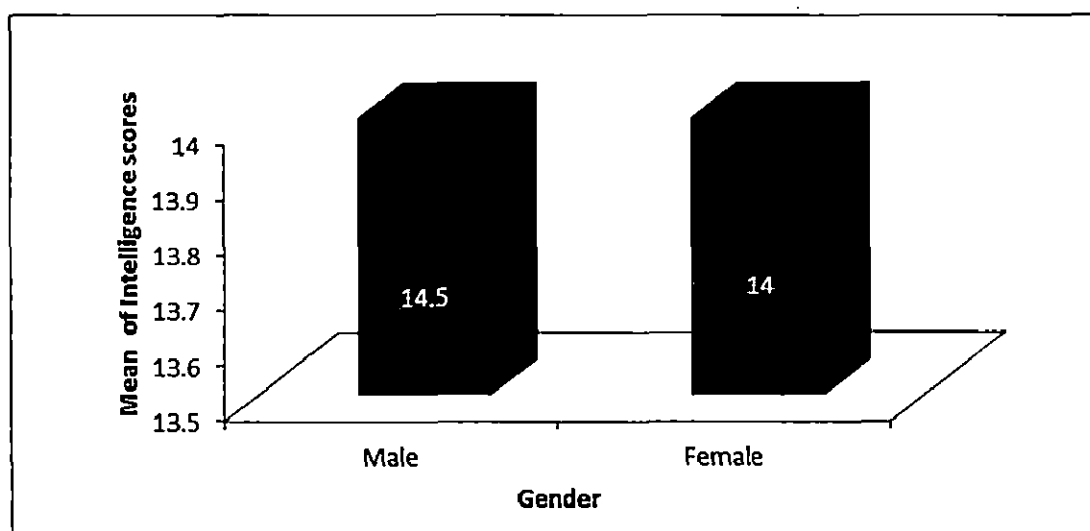
no effect on the intelligence of tribal students. To better understand this differential effect, we compare the means of the mean values of intelligence of male and female tribal students, presented in table 4.3.6

**Table 4.3.6: Mean of means of male and female tribal samples**

Groups	Jammu		Kashmir		Mean of the means
	Gujjar	Bakerwal	Gujjar	Bakerwal	
Male	16.78	12.51	14.76	13.65	14.425
Female	15.93	14.19	12.56	13.33	14.005

Glance at table 4.3.6 reveal that the mean of means of intelligence scores for male and female is 14.425 which is nearly equal to the mean of the means of intelligence scores of female students, i.e., 14.005. It is therefore concluded that male and female tribal students do not differ in their intelligence levels, which is represented graphically as in figure 4.3.7.

**Figure 4.3.7: Comparison of the mean of school achievement scores of male and female tribal students**



#### 4.3.2.2. To study the impact of Clan on the Intelligence of tribal students:

Clan in the present study is dichotomized in two ways, Gujjar clan and Bakerwals clan. The F-ratio of the clan variation as given in table 4.3.5 is statistically significant at 0.01 level, i.e.,  $F(1,625) = 14.119$ ,  $P < 0.05$  indicating that clan variation has a significant differential effect on the intelligence of tribal groups. To clarify the differential effect

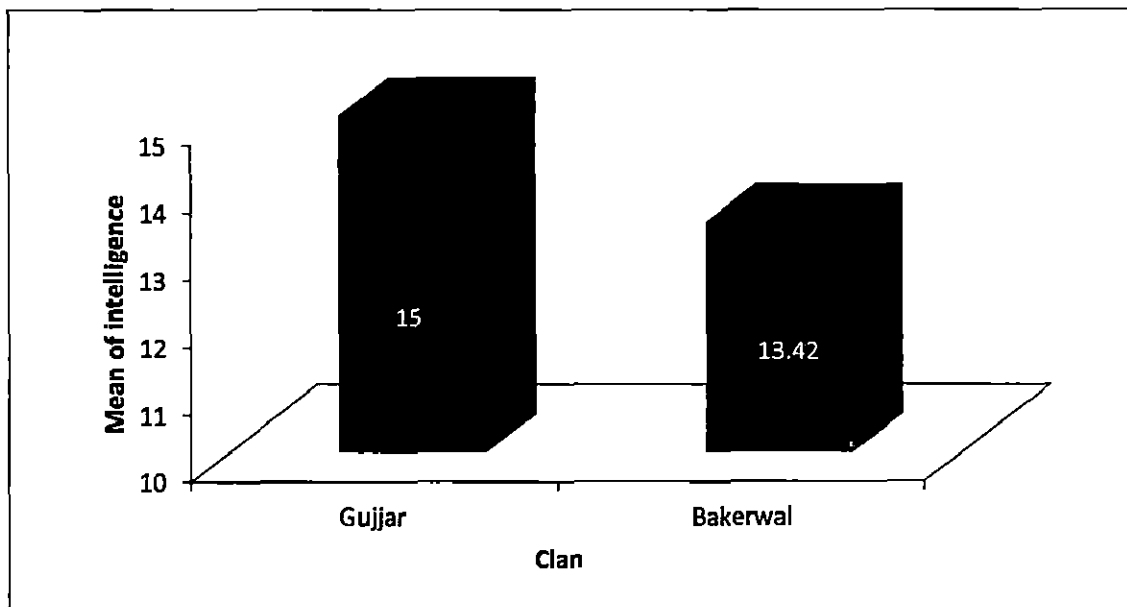
of clan on intelligence, we compare mean of the mean values of Gujjar and Bakerwal tribes which are presented in table 4.3.7

**Table 4.3.7: Mean of the means of Gujjar and Bakerwal students (clan)**

Groups	Jammu		Kashmir		Mean of the means
	Male	Female	Male	Female	
<b>Gujjar</b>	16.78	15.93	14.76	12.56	15.00
<b>Bakerwal</b>	12.51	14.19	13.65	13.33	13.42

Controlling the effect of gender and division it is found that the mean of the means for Gujjar students is 15.00. That is greater than the mean of the means for Bakerwal students i.e., 13.42. It is therefore concluded that clan variation has a significant impact on the intelligence of tribal students suggesting that Gujjars sample are more intelligent than that of Bakerwal sample. The significant mean differences can be observed clearly in figure 4.3.8.

**Figure 4.3.8: Comparison of the means of intelligence scores of Gujjar and Bakerwal clans**



#### 4.3.2.3. To study the impact of the Division on the intelligence of tribal students:

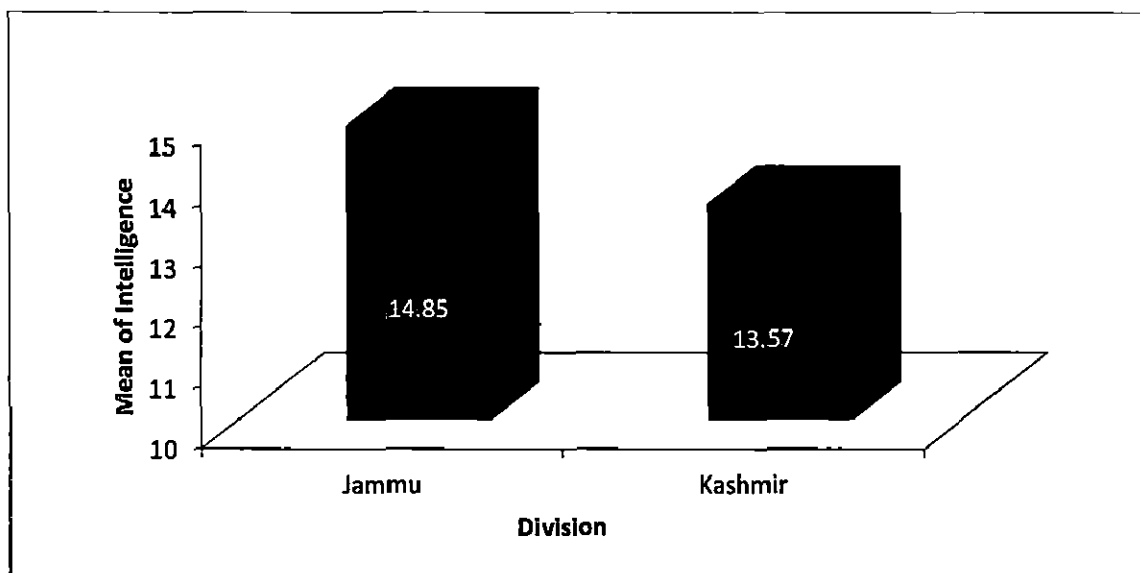
Division in the present study is dichotomized in two ways, Jammu division and Kashmir division. The F-ratio for the division variation as given in table 4.3.5 is statistically significant, i.e.,  $F(1, 625) = 9.083$ ,  $P < 0.05$  indicating that division variation has a significant differential effect on the intelligence of tribal groups. To clarify the differential effect of division on intelligence, the mean of the mean values of Jammu division and Kashmir division is compared in table 4.3.8.

**Table 4.3.8: Mean of the means of Gujjar and Bakerwal students (division).**

Groups	Gujjar		Bakerwal		Mean of the means
	Male	Female	Male	Female	
<b>Jammu</b>	16.78	15.93	12.51	14.19	14.85
<b>Kashmir</b>	14.76	12.56	13.65	13.33	13.57

Ignoring the effect of gender and clan table 4.3.8 reveal that, the mean of the means for Jammu sample is 14.85 which is greater than the mean of the means for Kashmir sample i.e., 13.57. It candidly proves that division variation has a significant impact on the intelligence of tribal students suggesting that the sample from Jammu division is more intelligent than that of Kashmir division. The significant mean differences can be observed clearly in figure 4.3.9.

**Figure 4.3.9: Comparison of the means of intelligence scores of Jammu division and Kashmir division**





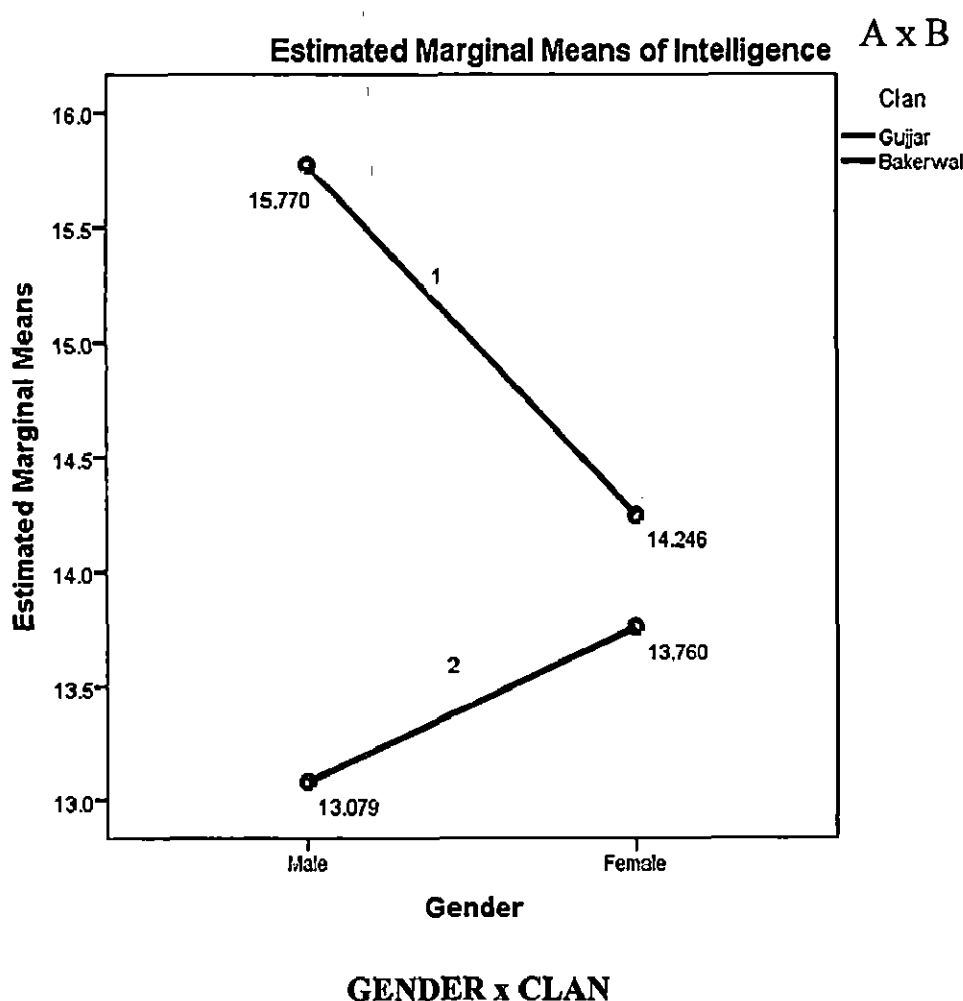
#### 4.3.2.4. To study the interactional effect of independent variables (Gender, Clan, and Division) on intelligence of the tribal students:

Three way analysis of variance yield 3 two-way interactional effects and one three-way interactional effect which are discussed in the following sub sections:

##### 1.1. Gender x clan:

The F ratio interaction between gender and clan as shown in the table 4.3.5 i.e.,  $F(1, 625) = 6.800$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of gender and clan on the intelligence of tribal students. To understand this in a better way, we consider the line graph of this interactional effect as depicted in figure 4.3.10.

**Figure 4.3.10: Line graph of gender and clan interaction**



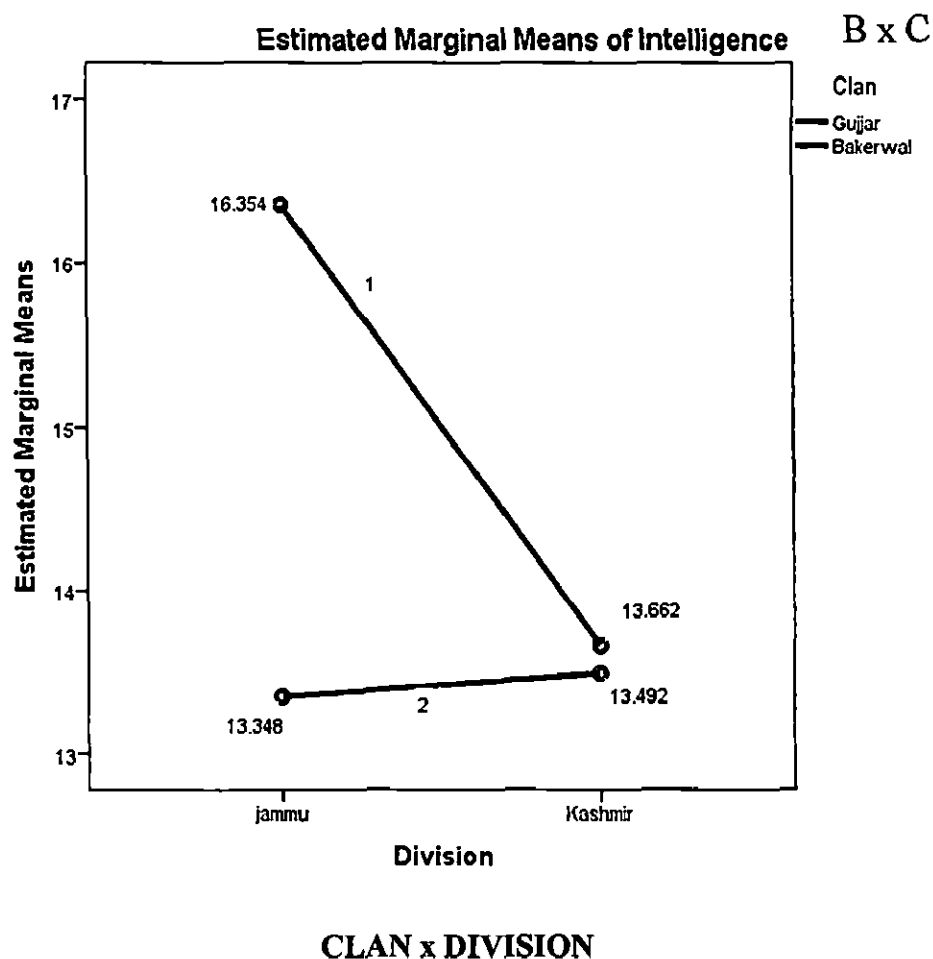
In the figure 4.3.10 two levels of gender are shown on the horizontal axis (i.e., Male and Female). There are two lines numbered as line 1 and line 2 representing the Gujar and Bakerwal clan respectively. The end points of each line represent the means of the

four conditions. Although the F-ratio for interaction between gender and clan is statistically significant, it is observed in the figure that the lines are neither parallel nor they cross each other, clearly messaging ordinal interactional effect of gender and clan on intelligence. This can be explained on account of highly significant F-ratio. In the same figure it is further clear that the intelligence of the Gujjar male sample is better than all the three groups, followed by the females of the same clan. In the Bakerwal clan females are brighter than the male ones.

### 1.2. Clan x Division:

The F ratio for interaction between clan and gender as shown in the table 4.3.5 i.e.,  $F(1,625) = 11.246$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of the clan and division on the intelligence of tribal students. To understand this better, we consider the line graph for this interactional effect as depicted in figure 4.3.11.

**Figure 4.3.11: Line graph of clan and division interaction**

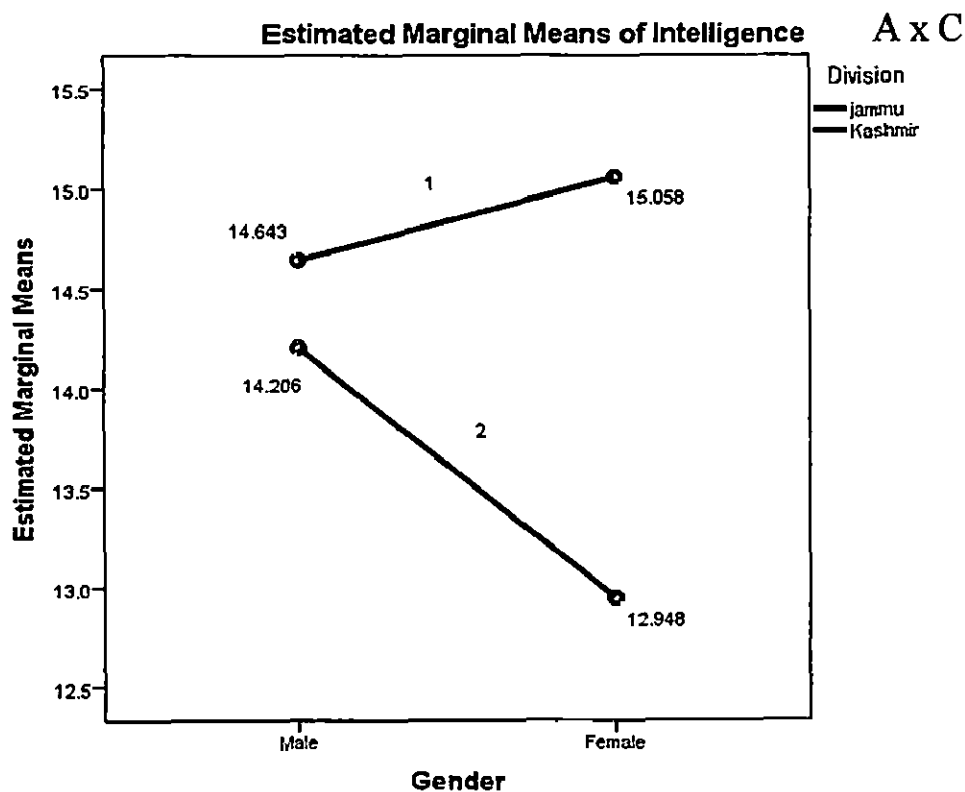


In the figure 4.3.11, two levels of division are shown on the horizontal axis (i.e., Jammu and Kashmir). There are two lines numbered as line 1 and line 2 representing the Gujjar and Bakerwal clan respectively. The end points of each line represent the means of the four conditions. Although the F-ratio for interaction between division and clan is statistically significant, it is observed in the figure that the lines are not parallel but seems to be convergent candidly indicating ordinal interactional effect. This can be explained on account of highly significant F-ratio. In the figure it is further clear that the intelligence of the Gujjar sample of Jammu division is better than all the three groups, followed by the Gujjars of the Kashmir division. In the Bakerwal clan there is very little difference between the two means.

### 1.3. Gender x Division:

The F ratio of interaction between gender and division as shown in the table 4.3.5 i.e.,  $F(1,625) = 3.915$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of the division and gender on intelligence of the tribal students. To comprehend this in a better way, we take into consideration the line graph of this interaction as depicted in figure 4.3.12.

**Figure 4.3.12: Line graph of gender and division interaction**



**GENDER x DIVISION**

In the figure 4.3.12 two levels of gender are shown on the horizontal axis (i.e., Male and Female). Line 1 and line 2 represents the two divisions, i.e., Jammu division and Kashmir Division. The end points of line 1 and 2 represent the means of the four conditions. Although the F-ratio for interaction between gender and division is statistically significant, it is observed in the figure that the lines are neither parallel nor they are intersecting each other, suggesting an ordinal interaction between gender and division. This can be explained on account of highly significant F-ratio. In the figure it is further clear that the intelligence of the female sample of Jammu division is better than the rest three, followed by the intelligence scores of males of the same division. In the Kashmir division males are more intelligent than the females.

#### 1.4. Gender x Clan x Division (A x B x C):

Glance at table 4.3.5, the three way interaction, i.e., A x B x C is found to be statistically insignificant with  $F(1, 625) = 0.146$ ,  $P > 0.05$  indicating that there is no interactional effect when the effect of all these three variables are considered together.

As evident from the results the set Null hypothesis  $HO_{10}$ : *There will be no significant interaction effect of gender, clan and division on the intelligence of Gujjar and Bakerwal students*. Stands partially accepted for the main effect of gender (A), and for the combined interactional effects of A x B x C, and rejected for the main effect of the Clan (B), Division (C) and the interactional effect of A x B, B x C, C x A.

**Discussion:** As evident from table 4.3.5, the calculated values reveal that the Gender variation has no significant effect on the intelligence of Gujjar and Bakerwal, indicating that the cognitive setup of both tribal men and women stands equal, therefore it can be said that there are certain other factors that affect the school achievement of Gujjar and Bakerwals of Jammu and Kashmir. Effect of clan and division has a significant effect on the intelligence of these groups. Thus the environmental factors play a significant role in determining the mental set up of these tribals and subsequently the school achievement. The Gujjars being the inhabitants of the foothill and in some cases very close to the cities help them to develop the cognitive skills. Thus, the migration of Gujjars from their social milieu, to a much advanced society by means of trade, education, barter system, leads them to develop better than the Bakerwal clan.

### 4.3.3. TO STUDY THE INTERACTIONAL EFFECT OF GENDER, CLAN AND DIVISION ON NEED ACHIEVEMENT OF TRIBAL STUDENTS:

*HO<sub>11</sub>: There will be no significant interaction effect of gender, clan and division on the n-Achievement of Gujjar and Bakerwal students.*

In order to see the effect of gender, clan and division variation on need achievement a 2 x 2 x 2 factorial analysis of variance was used, the provided results are presented in table 4.3.9 showing the main effects and interactional effects of the three independent variables i.e. gender, clan, and division on n-Achievement.

**Table 4.3.9: Summary 2 x 2 x 2 of ANOVA (n-Achievement)**

Source of variation	Sum of squares (SS)	df	Mean squares (MS)	F-ratio	Sig.
<b>Gender (A)</b>	1222.458	1	1222.458	2.466	N.S
<b>Clan (B)</b>	9075.197	1	9075.197	18.310*	Sig.
<b>Division (C)</b>	7809.658	1	7809.658	15.757*	Sig.
<b>A x B</b>	4174.315	1	4174.315	8.422*	Sig.
<b>B x C</b>	11710.267	1	11710.267	23.627*	Sig
<b>C x A</b>	1290.803	1	1290.803	2.604***	N.S
<b>A x B x C</b>	4807.485	1	4807.485	9.700*	Sig.
<b>Error</b>	306303.213	618	495.636		
<b>Total</b>	10423808.000	626			

Dependent variable Need-Achievement, \* Significant at 0.05 level, \*\*\* Not significant

#### 4.3.3.1. To study the effect of Gender on Need-Achievement of tribal students:

To study the effect of gender (male and female) on need-achievement of tribal students, we take into consideration the main effect of gender from table 4.3.9 The F ratio for gender, i.e.,  $F(1, 625) = 2.466$ ,  $P > 0.05$  is found to be insignificant indicating that gender variation has no significant effect on the need-achievement of tribal students. To better understand this differential effect, we compare the means of the mean values of male and female students as presented in table 4.3.10.

**Table 4.3.10: Mean of means of male and female tribal samples**

Groups	Jammu		Kashmir		Mean of the means
	Gujjar	Bakerwal	Gujjar	Bakerwal	
Male	130.98	130.30	123.37	129.17	128.455
Female	131.46	129.98	106.28	134.43	125.5375

Glance at table 4.3.10 reveals that the mean of means of n-Achievement scores for male sample is 128.45, which is greater than the mean of the means of need-achievement scores of female students, i.e., 125.53. But this difference is not statistically significant as proven from the F value. It is therefore concluded that the variation in gender has no significant difference on n-Achievement of tribal students. This is represented graphically in figure 4.3.13

**Figure 4.3.13: Comparison of the mean of n-Achievement scores of male and female tribal students**

#### 4.3.3.2. To study the impact of clan on the need-achievement of tribal students:

Clan in the present study is dichotomized in two ways, Gujjar clan and Bakerwal clan. The F-ratio of the clan variation as given in table 4.3.9 is statistically significant at 0.05 level, i.e.,  $F(1,625) = 18.310$ ,  $P < 0.05$  indicating that clan variation has a significant differential effect on n-Achievement of tribal students. To clarify the differential effect

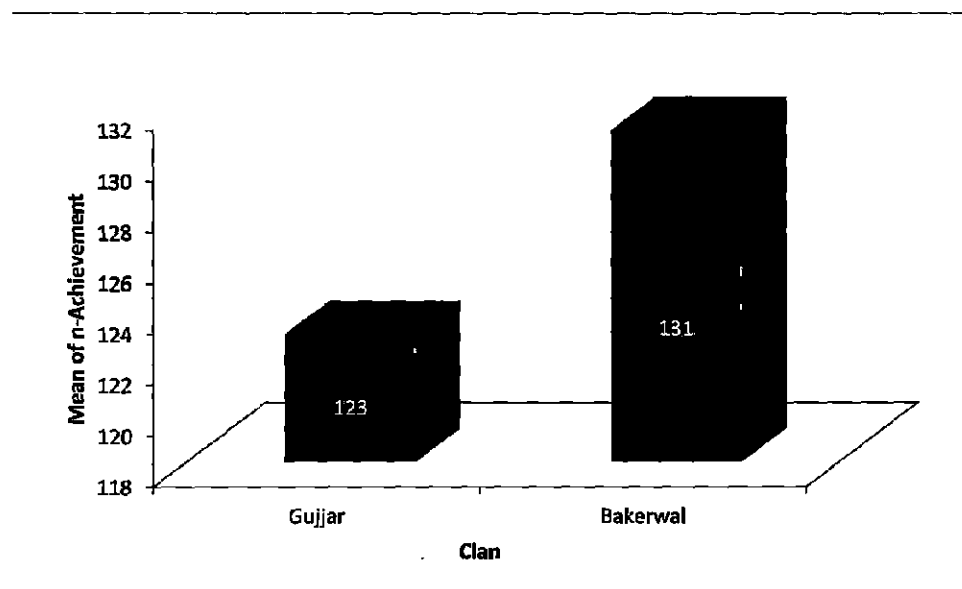
of clan on n-Achievement, we compare the mean of the mean values of Gujjar and Bakerwal tribes as presented in table 4.3.11.

**Table 4.3.11: Mean of the means of Gujjar and Bakerwal students**

Groups	Jammu		Kashmir		Mean of the means
	Male	Female	Male	Female	
<b>Gujjar</b>	130.98	131.46	123.37	106.28	123.022
<b>Bakerwal</b>	130.30	129.98	129.17	134.43	130.97

Controlling the effect of gender and division it is found in table 4.3.11 that the mean of the means for Bakerwal students is 130.97 and the mean of the means for Gujjar students i.e., 123.022. Since the mean of means for Bakerwal clan is greater than the mean of means of Gujjar clan. ( $130 > 123$ ), as visualized graphically in figure 4.3.14, It can be therefore concluded that clan variation has a significant impact on n-Achievement of tribal students suggesting that Bakerwal samples are having more achievement motivation than that of Gujjars sample.

**Figure 4.3.14: Comparison of mean n-Achievement scores of Gujjar and Bakerwal clans**



#### 4.3.3.3. To study the impact of the Division on the need-achievement of tribal students:

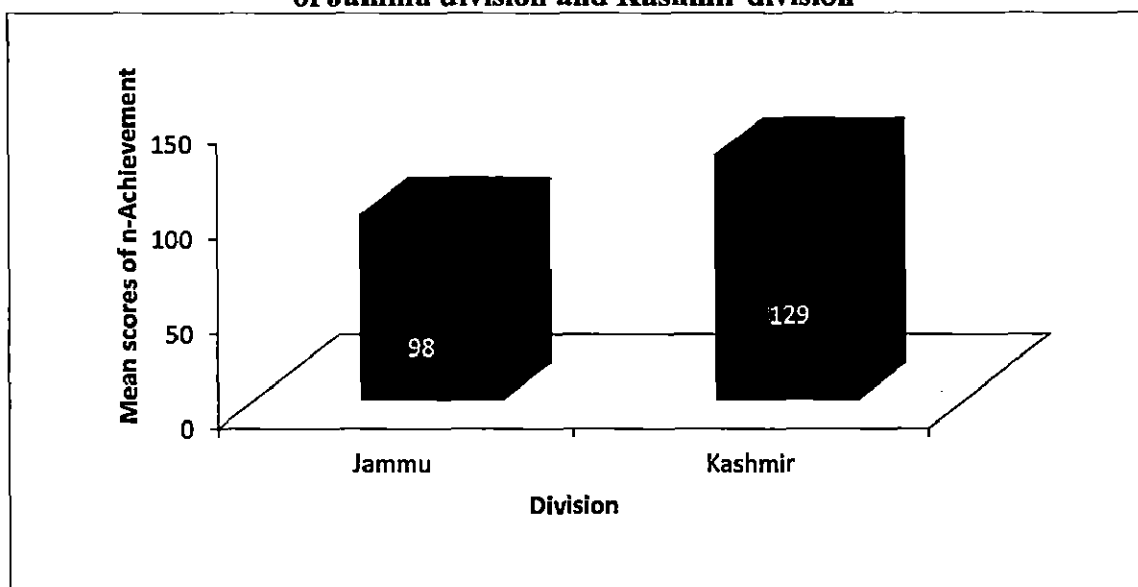
Division in the present study is dichotomized in two ways, Jammu division and Kashmir division. The F-ratio of the division variation as given in table 4.3.9 is statistically significant, i.e.,  $F(1, 625) = 15.757$ ,  $P < 0.05$  indicating that division variation has a significant differential effect on the n-Achievement of tribal groups. To clarify the differential effect of division on n-Achievement, the mean of the mean values of Jammu division and Kashmir division is compared in table 4.3.12.

**Table 4.3.12: Mean of the means of Gujjar and Bakerwal students**

Groups	Gujjar		Bakerwal		Mean of the means
	Male	Female	Male	Female	
<b>Jammu</b>	130.98	131.46	130.30	129.98	98.065
<b>Kashmir</b>	123.37	134.43	125.43	134.43	129.39

Controlling the effect of gender and clan table 4.3.12 reveal that, the mean of the means for Jammu sample is 98.06 which is greater than the mean of the means for Kashmir Sample i.e., 129.39. It is candidly proven that division variation has a significant impact on n-Achievement of tribal students suggesting that the sample from Kashmir division acquires more n-Achievement scores than that of Jammu division. The significant mean differences can be observed clearly in figure 4.3.15.

**Figure 4.3.15: Comparison of mean need-achievement scores of Jammu division and Kashmir division**





#### 4.3.3.4. To study the interactional effect of independent variables (Gender, Clan and Division) on n-Achievement of tribal students:

Three way analysis of variance yield 3 two-way interactional effects and one three-way interactional effect which is discussed in the following subsections:

##### 1.1. Gender x Clan:

The F ratio interaction between gender and clan as shown in the table 4.3.9 i.e.,  $F(1, 625) = 8.422$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of gender and clan on n-Achievement of tribal students. To understand this better, we consider the line graph of this interactional effect as depicted in figure 4.3.16.

**Figure 4.3.16: Line graph of gender and clan interaction**

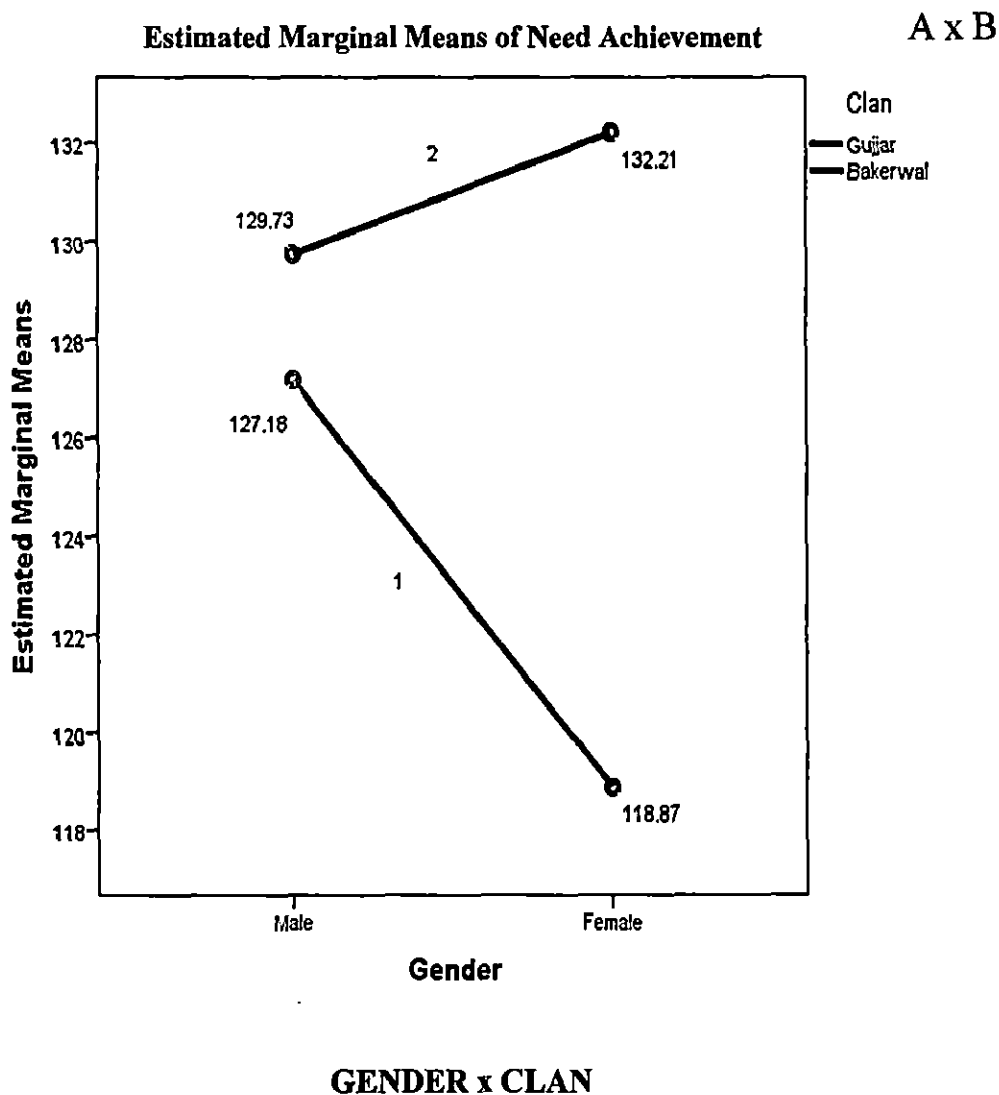
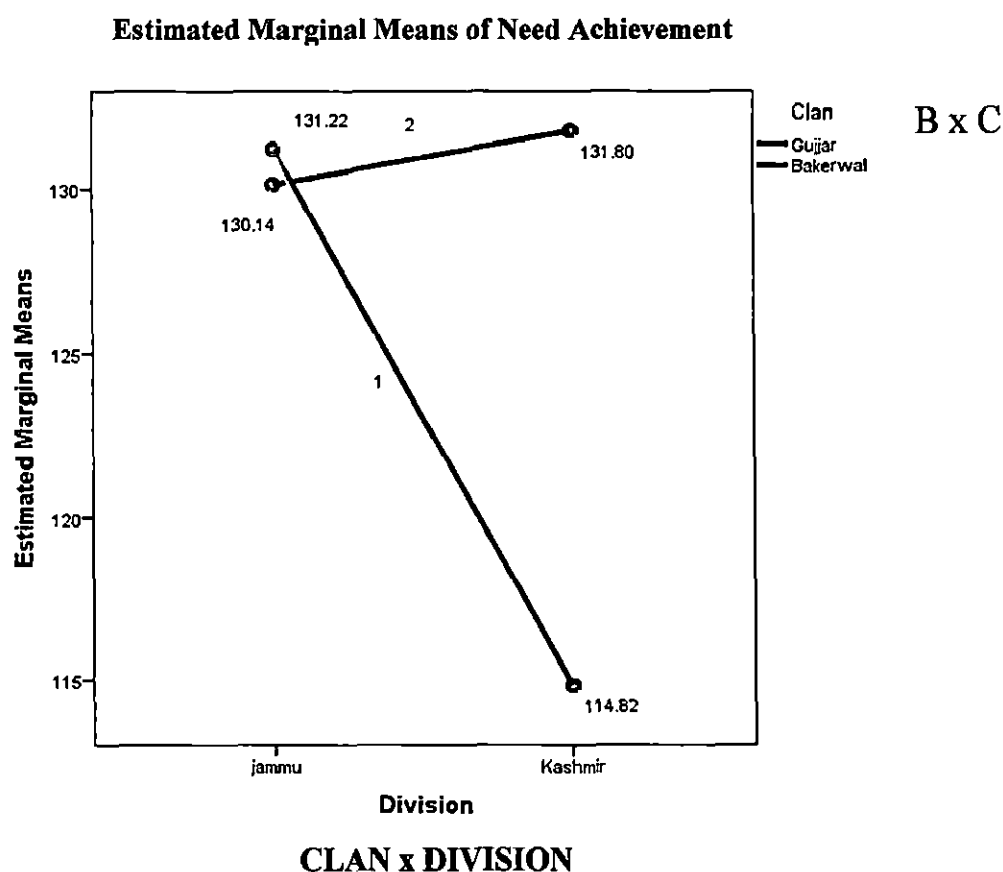


Figure 4.3.16 reveals two levels of Gender as shown on the horizontal axis (i.e., Male and Female). There are two lines numbered as line 1 and line 2 representing the Gujar and Bakerwal clan respectively. The end points of each line represent the means of the four conditions. Although the F-ratio for interaction between gender and clan is statistically significant, it is observed from the same figure that the lines are not parallel clearly messaging an ordinal interaction between gender and clan. This can be explained on account of highly significant F-ratio. In the figure 4.3.16 it is further clear that the n-Achievement of female Bakerwal sample is better than all the three groups, followed by the male sample of the same clan. In the Gujar clan males have higher achievement motivation than the females.

### 1.2. Clan x Division:

The F ratio value of interaction between clan and gender as shown in the table 4.3.9 i.e.,  $F(1,625) = 23.627$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of the clan and division on n-Achievement of tribal students. To understand this better, we consider the line graph of this interactional effect as depicted in figure 4.3.17.

**Figure 4.3.17: Line graph of clan and division interaction**

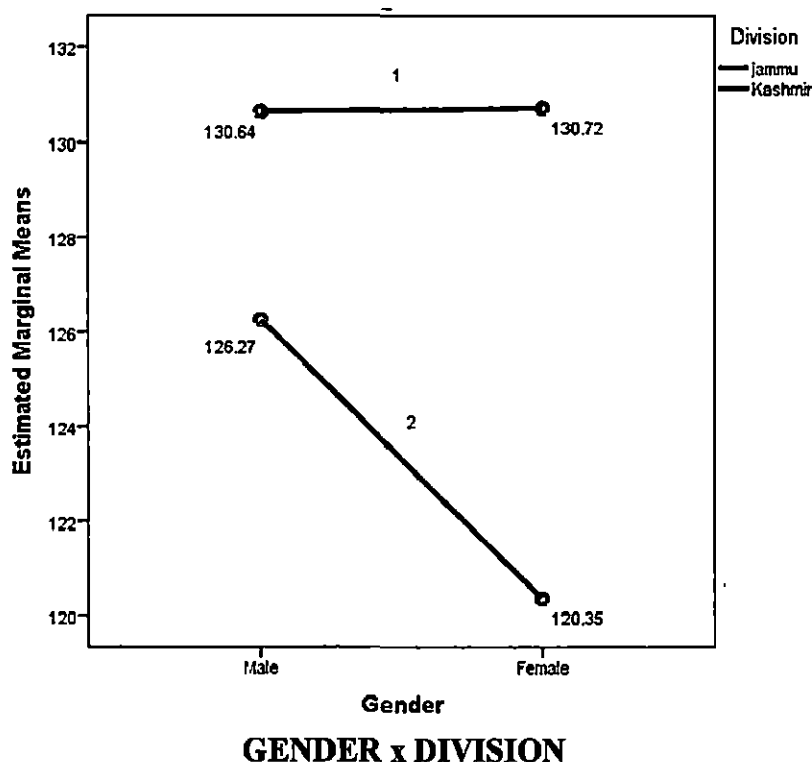


In the figure 4.3.17 two levels of the division are shown on the horizontal axis (i.e., Jammu and Kashmir). There are two lines numbered as line 1 and line 2 representing the Gujjar and Bakerwal clan respectively. The end points of each line represent the means of the four conditions. The F-ratio for interaction between division and clan is statistically significant, as evident from table 4.3.9. It is also evident from figure 4.3.17 that the lines intersect each other, candidly indicate the disordinal interactional effect between division and clan. This can be explained on account of highly significant F-ratio. In the figure it is further clear that the n-Achievement of the Gujjar clan of Jammu division and that of the Bakerwal clan of the same division is almost same and better than the rest of the two, followed by the Bakerwal sample of Kashmir division. The lowest in the n-Achievement score was the Gujjar sample of the Kashmir division.

### 1.3. Gender x Division:

The F ratio for the interaction between gender and division as shown in the table 4.3.9 i.e.,  $F(1,625) = 2.604$ ,  $P > 0.05$  is statistically insignificant, indicating that there is no significant interactional effect of the division and gender on n-Achievement of the tribal students. To comprehend this in a better way, we take into consideration the line graph as depicted in figure 4.3.18.

**Figure 4.3.18: Line graph of gender and division interaction**  
**Estimated Marginal Means of Need Achievement**



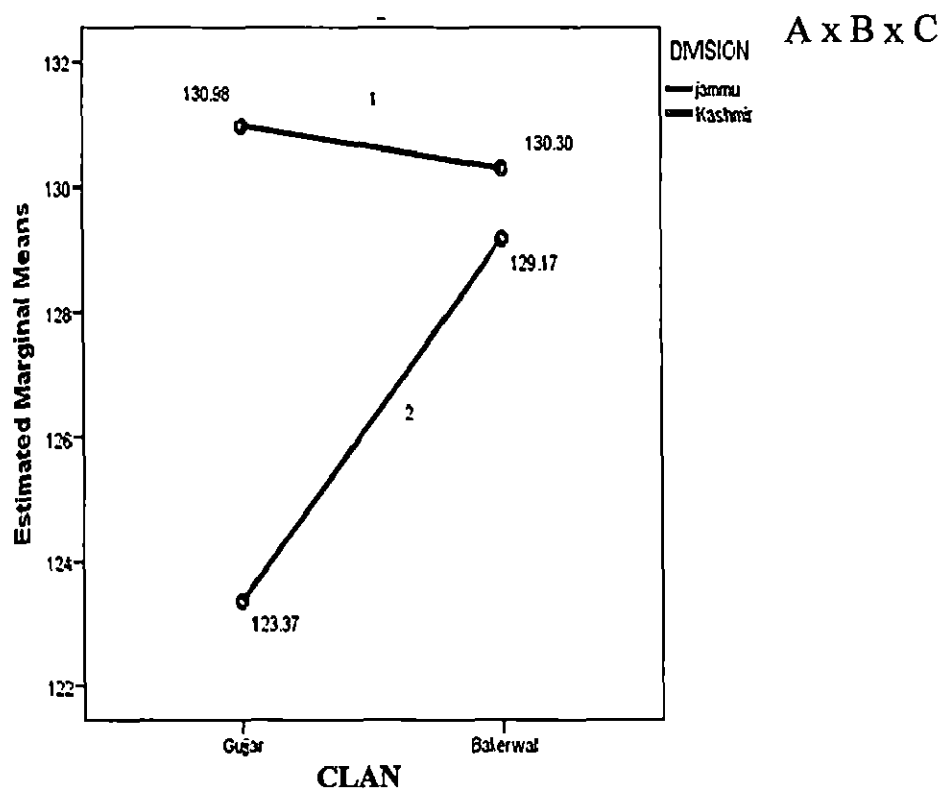
In the figure 4.3.18 two levels of gender are shown on the horizontal axis (i.e., Male and Female). Line 1 and 2 represents the two divisions, i.e., Jammu division and Kashmir division. The end points of line 1 and 2 represent the means of the four conditions; although the F-ratio for interaction between gender and division is statistically insignificant, indicating that there is no interactional effect of the division and gender of the n-Achievement of the tribal sample.

#### 1.4. Gender x Clan x Division (A x B x C):

The three way interaction, i.e., A x B x C was found to be statistically significant with  $F(1,625) = 9.70, P < 0.05$  (ref. Table 4.3.9). To examine the nature of this significant interactional effect among gender, clan and division (A x B x C), and for the sake of clarity the investigator decomposed this 3-way interaction into two separate two way interactions split by one of the three independent variables' variation. In our case we consider Clan x Division interaction separately for each gender (i.e., male and female). In order to understand it clearly, we consider the two line graphs of two sexes as represented in figure 4.3.19 and 4.3.20.

**Figure 4.3.19: Line graph of division and clan interaction for male**

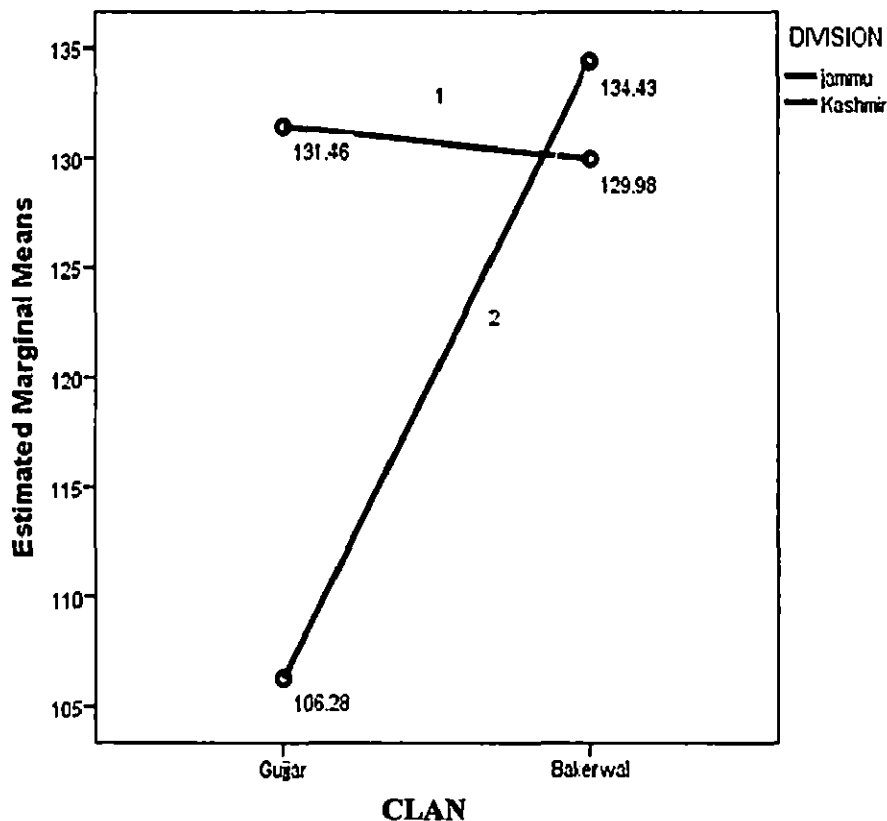
**Estimated Marginal Means of Need Achievement at Gender Male**



**Division x Clan interaction for Male Gender**

**Figure 4.3.20: Line graph of division and clan interaction for female**  
**Estimated Marginal Means of Need Achievement at Gender Female**

A x B x C



#### Gender x Clan interaction for Female Gender

The horizontal axis of both the graphs show 4.3.19 and 4.3.20 shows two levels of clan variance, i.e., Gujjar clan and Bakerwal clan. Line one and line two represents the division variation i.e., Jammu division and Kashmir division respectively. The former graph represents the male gender and the later one represents the female one. As evident from both the graphs the gender x clan interaction for each dimension of gender is not same and is of different order and form in both the graphs. It can be candidly concluded that there exists an interaction among A x B x C with respect to n-Achievement; thereby supporting the results obtained by highly significant F-ratio (refer Table 4.3.9). In figure 4.3.19 we observe an ordinal interaction in which the two lines are neither parallel nor they intersect, on the other hand, in figure 4.3.20 we observe a disordinal interaction as the lines candidly intersect each other. Therefore, on account of differences observed in the two graphs it can be safely concluded that there exists an interactional effect of gender, clan and division with respect to n-Achievement of tribal students.

As evident from the results the set Null hypothesis  $HO_{11}$ : *There will be no significant interaction effect of gender, clan and division on the n-Achievement of Gujjar and Bakerwal students*. Stands accepted for the main effect of gender (A), and for the combined interactional effects of C x A, and rejected for the main effect of the Clan (B), Division (C) and the interactional effect of A x B, B x C, A x B x C.

**Discussion:** The n-Achievement scores of all the tribal groups were found to be of average and above average range. In table 4.3.9 the calculated values of main and interaction effects reveal that gender variation and a combined interaction of division and gender has no significant effect on the n-Achievement of these students. The clan variation and the division variation have a significant effect on the n-Achievement of these tribals. With Bakerwals having a little bit greater score than the Gujjars. As the Gujjars have become a source of inspiration for the Bakerwal clan, and the tribal of Jammu as a role model for the tribals of Kashmir division. The Bakerwals are highly motivated for the education, and their interaction with that of Gujjars adds to their motivation. The well-being of Gujjars in particular and that of the tribals of Jammu division has become a role model for the development of the whole Gujjar and Bakerwal tribal community. Various research studies in different marginalised communities has proven same results like the differences between African Americans and Whites in family structure would be predictive of disparate achievement values (Rosen and Andrade, 1959; Rainwater, 1966, Graham, 1994) in some studies the reported achievement values of African-American samples were higher than those of their more economically advantaged White counter parts (Turner, 1972) and in other studies, higher achievement values were associated with the absence of parental training for mastery and independence in Black children (Rosen, 1959). Rather than attempting to address such unexpected findings, studies on race and the achievement syndrome, including achievement values, merely faded from view by the 1970s.

Despite better need achievement scores than the Gujjars, the Bakerwals have sub-standard school achievement, the reason for this may be that they have been treated as a community meant for lower scholastic achievement, and they were not provided with opportunities to prove their metal. Sociologists point to the opportunity structure in American society as they argue that economic and social disadvantage have led many Black students to believe that their efforts in school will have relatively little pay off in terms of economic and social mobility (Mickelson, 1990). That is, the perceived

barriers imposed by a society that perpetuates inequality along race and class lines communicate to minority youngsters that there is little relationship between their efforts and eventual out comes. The perception of barriers is likely to manifest itself as low educational and occupational aspirations (Cook, et al., 1996) or perceived discrimination by members of higher status groups (Van Laar, 2000).

#### 4.3.4. TO STUDY THE INTERACTIONAL EFFECT OF GENDER, CLAN AND DIVISION ON SOCIO-ECONOMIC STATUS OF TRIBAL STUDENTS:

In order to see the effect of gender, clan and division variation on socio-economic status a 2 x 2 x 2 factorial analysis of variance was used, the provided results are presented in table 4.3.13 showing the main effects and interactional effects of the three independent variables i.e. gender, clan, and division on socio-economic status.

**Table 4.3.13: Summary of 2 X 2 X 2 ANOVA**

Source of variation	Sum of squares (SS)	df	Mean squares (MS)	F-ratio	Sig.
<b>Gender (A)</b>	286.748	1	286.748	0.780	N.S
<b>Clan (B)</b>	8627.702	1	8627.702	23.459**	Sig
<b>Division (C)</b>	6489.848	1	6489.848	17.646**	Sig.
<b>A x B</b>	7322.054	1	7322.054	19.909**	Sig.
<b>B x C</b>	7792.577	1	7792.577	21.188**	Sig.
<b>C x A</b>	222.229	1	222.229	0.604	N.S
<b>A x B x C</b>	144.192	1	144.192	0.392	N.S
<b>Error</b>	227286.702	618	367.778		
<b>Total</b>	2169572.000	626			

*Dependent variable: Socio-economic status, \*\* Significant at 0.01 level.*

##### 4.3.4.1. To study the effect of Gender on socio-economic status of tribal Students:

In order to investigate the effect of gender (Male and Female) on socio-economic status of tribal students, we take into consideration the main effect of gender from table 4.3.13. The F ratio for gender, i.e.,  $F(1, 625) = 0.780$ ,  $P > 0.05$ ) indicates that gender variation has no effect on the socio-economic status of tribal students. To better

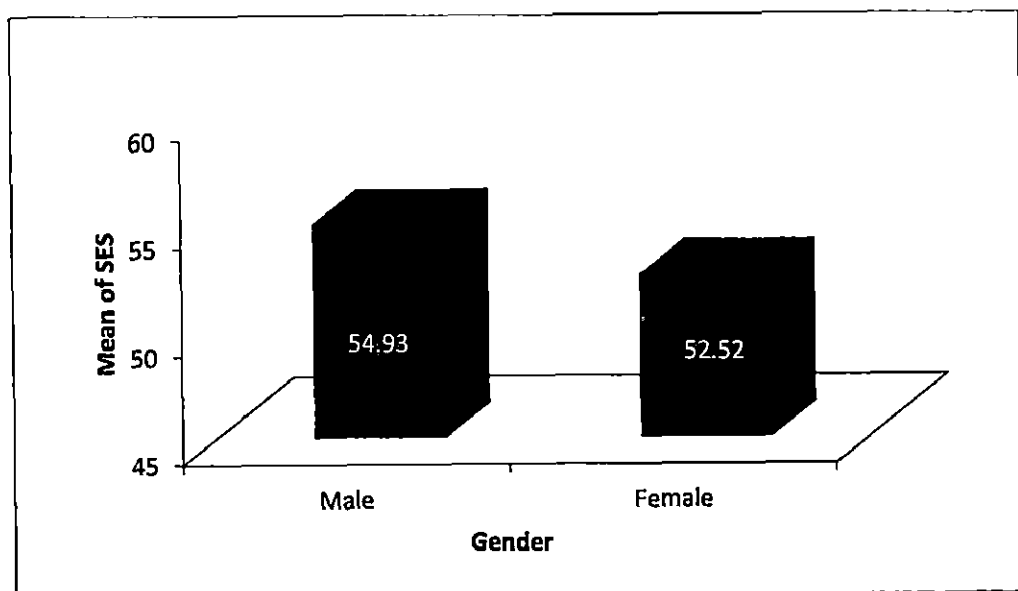
understand this differential effect, we compare the means of the mean values of male and female students as presented in table 4.3.14.

**Table 4.3.14: Mean of means of male and female tribal samples**

Groups	Jammu		Kashmir		Mean of the means
	Gujjar	Bakerwal	Gujjar	Bakerwal	
Male	69.54	46.29	53.22	46.70	53.93
Female	58.75	51.78	46.91	52.66	52.52

Glance at table 4.3.14 reveal that the mean of means of socio-economic status scores for male and female is 53.93 and 52.52 respectively. The mean score of male sample is slightly greater than the mean of the mean scores of female students the variation in both these groups was found to be statistically insignificant. It is therefore concluded that male and female students do not differ in their socio-economic status levels, which is represented graphically as in figure 4.3.21.

**Figure 4.3.21: Comparison of the mean of socio-economic status of male and female tribal students**



#### 4.3.4.2. To study the impact of clan on the socio-economic status of tribal students:

Clan in the present study is dichotomized in two ways, Gujjars clan and Bakerwals clan. The F-ratio of the clan variation as given in table 4.3.13 is statistically significant



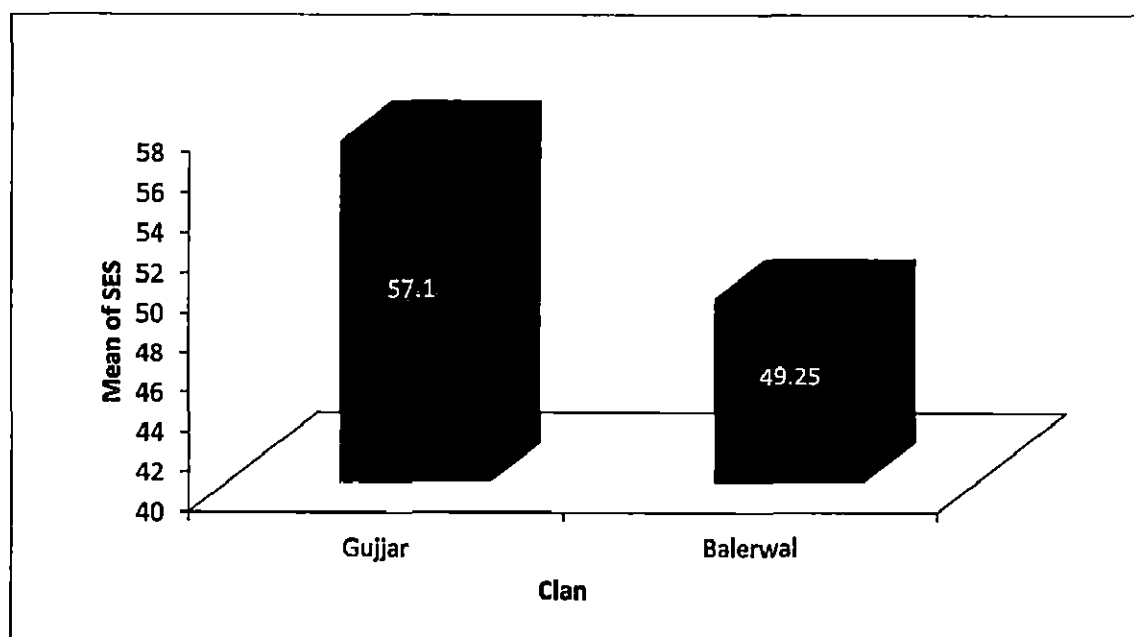
at 0.05 level, i.e.,  $F(1,625) = 23.459$ ,  $P < 0.05$  indicating that clan variation has a significant differential effect on socio-economic status of tribal sample. To clarify the differential effect of clan on socio-economic status, we compare the mean of mean values of Gujar and Bakerwal sample and are presented in table 4.3.15.

**Table 4.3.15: Mean of the means of Gujar and Bakerwal students (clan)**

Groups	Jammu		Kashmir		Mean of the means
	Male	Female	Male	Female	
<b>Gujjar</b>	69.54	58.75	53.22	46.91	57.10
<b>Bakerwal</b>	46.29	51.78	46.29	52.66	49.25

Controlling the effect of gender and division it is found that the mean of the means for Gujar students is 57.10. That is greater than the mean of the means of Bakerwal students i.e., 49.25. It can be therefore concluded that clan variation has a significant impact on socio-economic status of tribal students suggesting that Gujar sample are having high socio-economic status than that of Bakerwal sample. The significant mean differences can be observed graphically in figure 4.3.22.

**Figure 4.3.22: Comparison of mean socio-economic status scores of Gujar and Bakerwal students (Clan)**



#### 4.3.4.3. To study the impact of the Division on the socio-economic status of tribal students:

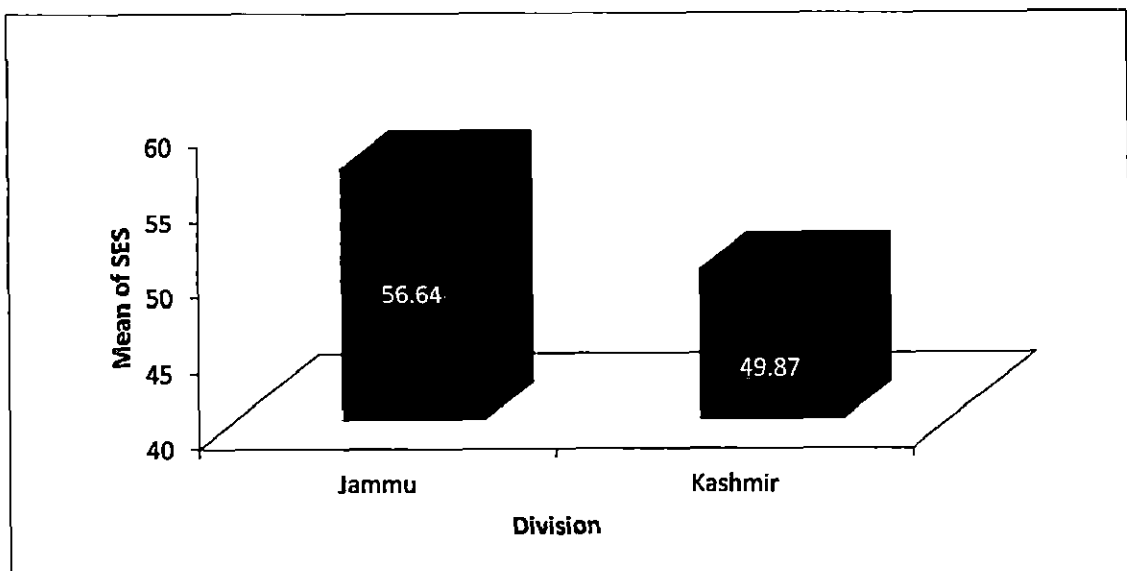
Division in the present study is dichotomized in two ways, Jammu division and Kashmir division. The F-ratio for the division variation as given in table 4.3.13 is statistically significant, i.e.,  $F(1, 625) = 17.646$ ,  $P < 0.05$  indicating that division variation has a significant differential effect on the SES of tribal groups. To clarify the differential effect of division on SES, the mean of the mean values of the total sample from Jammu division and Kashmir division is compared in table 4.3.16.

**Table 4.3.16: Mean of the means of Gujjar and Bakerwal students (division)**

Groups	Gujjar		Bakerwal		Mean of the means
	Male	Female	Male	Female	
Jammu	69.54	58.75	46.50	51.78	56.64
Kashmir	53.22	46.91	46.70	52.66	49.87

Ignoring the effect of gender and clan table 4.3.13 reveals that, the mean of the means for Jammu sample is 56.64 which is greater than the mean of the means of Kashmir Sample i.e., 49.87 this variation is significant at 0.05 level of significance. Thus, it is candidly proven that division variation has a significant impact on socio-economic status of tribal students suggesting that the sample from Jammu division acquires higher socio-economic status than that of Kashmir division. The significant mean differences can be observed clearly in figure 4.3.23

**Figure 4.3.23: Comparison of mean socio-economic status scores of Jammu division and Kashmir division**



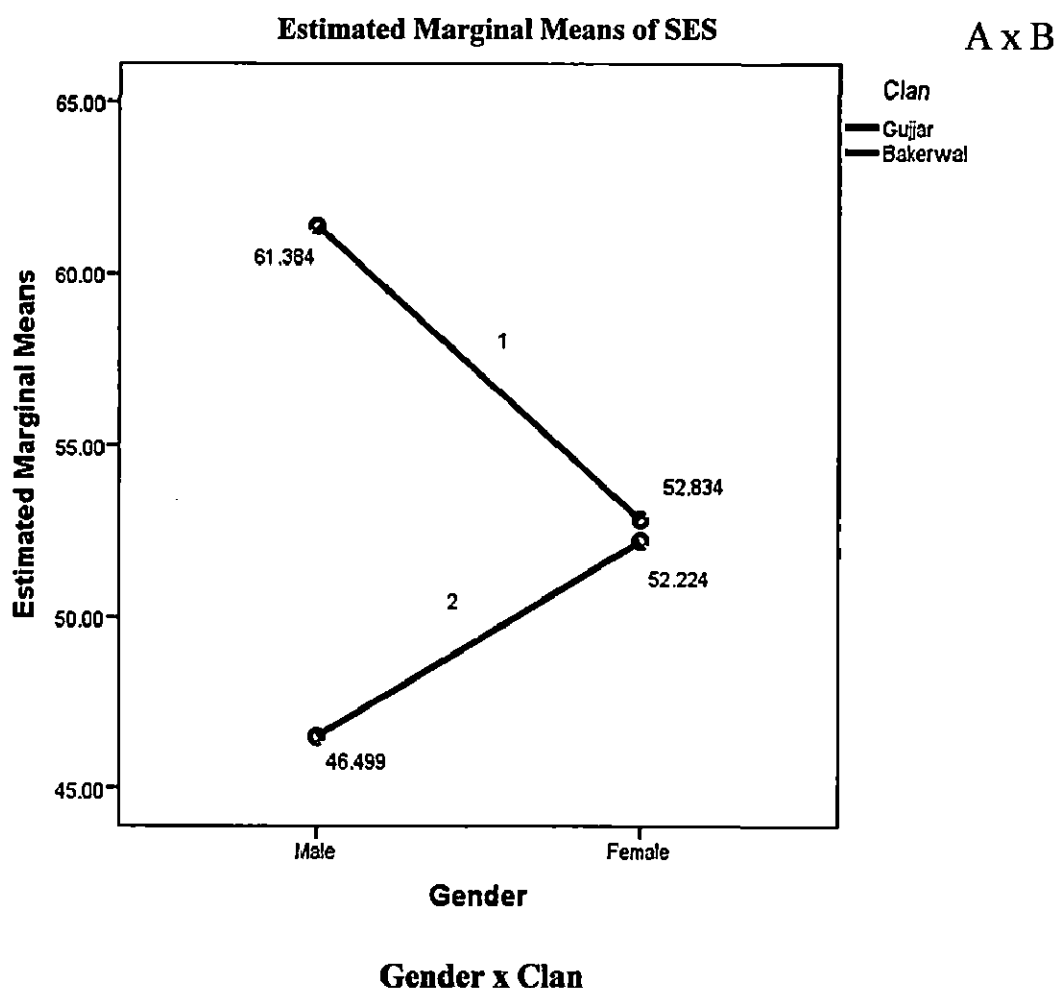
#### 4.3.4.4. To study the interactional effect of independent variables on socio-economic status of tribal students:

Three way analysis of variance yield 3 two-way interactional effects and one three-way interactional effect which is discussed in the following subsections:

##### 1.1. Gender x clan:

The F ratio interaction between gender and clan as shown in the table 4.3.13 i.e.,  $F(1, 625) = 19.909$ ,  $P < 0.05$  which is statistically significant, indicating that there is significant interactional effect of gender and clan on socio-economic status of tribal students. To understand this better, we consider the line graph for this interactional effect as depicted in figure 4.3.24.

**Figure 4.3.24: Line graph of gender and clan interaction**

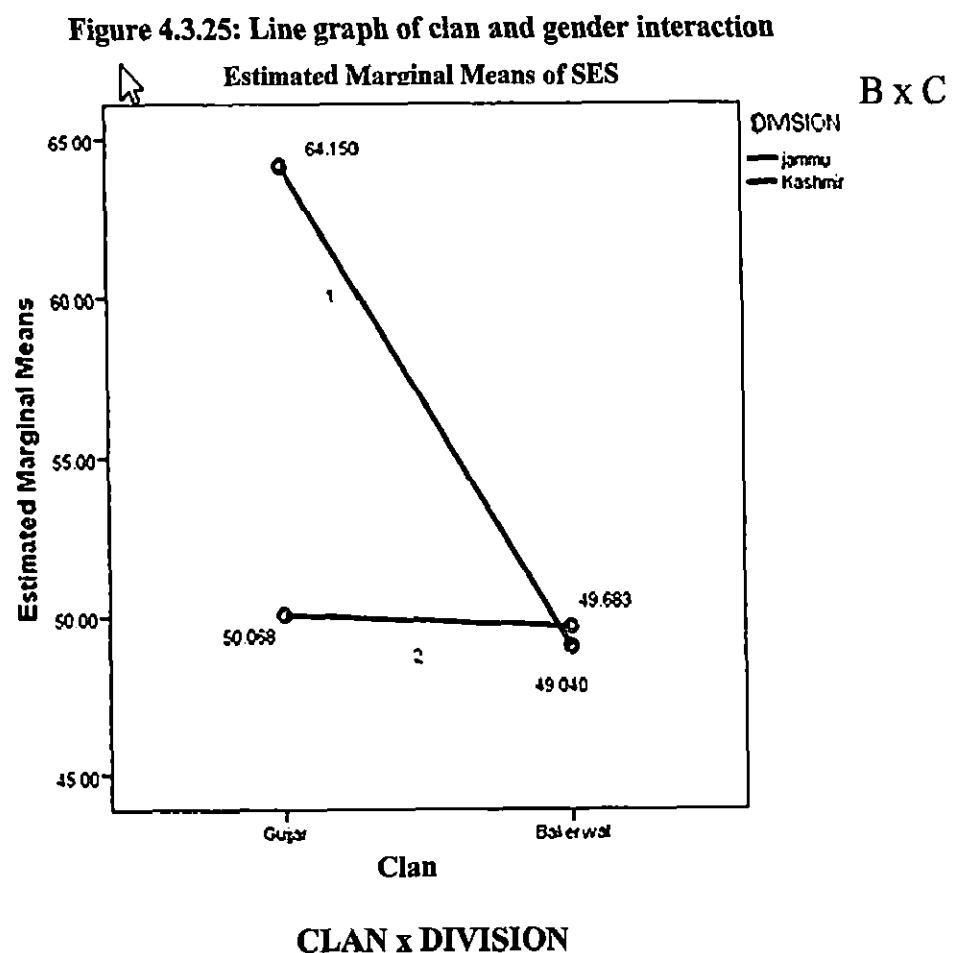


In the figure two levels of gender are shown on the horizontal axis (i.e., Male and Female). There are two lines numbered as line 1 and line 2 representing Gujar and

Bakerwal clan respectively. The end points of each line represent the means of the four conditions. Although the F-ratio for interaction between gender and clan is statistically significant, it is observed in the figure that the lines are not parallel, but are found to be converging clearly messaging an ordinal interactional between gender and clan. This can be explained on account of highly significant F-ratio. In the figure it is further clear that the socio-economic status of male Gujjar sample is better than all the three groups, followed by the female sample of the same clan. The socio-economic status of the female Gujjar and Bakerwal clan are same. The male sample of Bakerwal clan is found to have the least socio-economic status among the four categories.

### 1.2. Clan x Division:

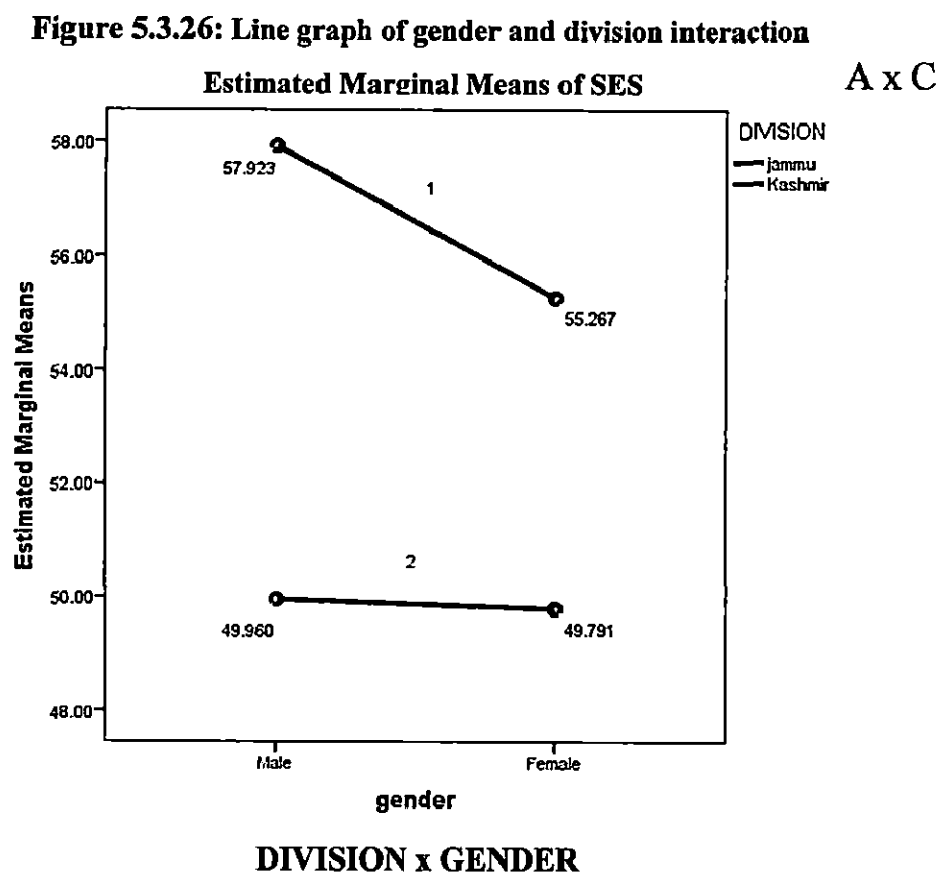
The F ratio value of interaction between clan and gender as shown in the table 4.3.13 i.e.,  $F(1,625) = 21.188$ ,  $P < 0.05$  is statistically significant, indicating that there is a significant interactional effect of the clan and division on socio-economic status of tribal students. To understand this in a much better way, we consider the line graph for this interactional effect as depicted in figure 4.3.25.



In the above figure two levels of socio-economic status are shown on the horizontal axis (i.e., Division and Clan). There are two lines numbered as line 1 and line 2 representing the Gujjar and Bakerwal clan respectively. The end points of each line represent the means of the four conditions. Although the F-ratio for interaction between division and clan is statistically significant, it is observed in the figure that the lines meet each other candidly indicating the disordinal interactional effect between division and clan. This can be explained on account of highly significant F-ratio. In the same figure it is further clear that the socio-economic status of the Gujjar sample of Jammu division is better than the rest of the three groups. There is a little difference between the mean scores of the Bakerwal sample of both the regions, and that of the female Gujjar sample of Kashmir division is having the least socio-economic status.

### 1.3. Gender x Division:

The F ratio interaction between gender and division as shown in the table 4.3.13 i.e.,  $F(1,625) = 0.604$ ,  $P > 0.604$  is statistically insignificant, indicating that there is no significant interactional effect of the division and gender on socio-economic status of the tribal students. To comprehend this in a better way, we take into consideration the line graph as depicted in figure 4.3.26.



In the figure two levels of gender are shown on the horizontal axis (i.e., Male and Female). Line 1 and line 2 represents the two divisions, i.e., Jammu division and Kashmir Division. The end points of line 1 and 2 represent the means of the four conditions; although the F-ratio for interaction between gender and division is statistically insignificant, indicating that there is no interactional effect of the division and gender on the socio-economic status of the tribal sample.

#### 4.5.4. Gender x Clan x Division (A x B x C):

The only three way interaction, i.e., A x B x C is found to be statistically insignificant with  $F(1,625) = 0.392$ ,  $P > 0.05$  indicating that there is no interactional effect when all these three variables are taken together.

**Discussion:** The overall socio-economic status of both these tribal groups was low when compared with the general population. But, the results of this study revealed demarcating signs of high and low socio-economic strata within Gujjar and Bakerwal tribes. Results of ANOVA (table 4.3.13) candidly reveal that gender variation has no significant effect on the socio-economic status of the Gujjar and Bakerwal students. While as, clan variation has a significant variation leading towards the fact that the socio-economic status of Gujjars clan was better than that of Bakerwal clan. The results also attributed a significant effect of division variation on the socio-economic status of these two tribal phratries. A significant effect of division variation on the socio-economic status of these tribals indicating that sample of Jammu division is well established than their counterparts at Kashmir division. The interactional analysis between gender and clan reveal that Gujjar males are far ahead than Bakerwal males while as female of both groups belong to same socio-economic status level. On the other hand the interactional effect of clan and gender interaction reveals that Gujjar male of Jammu division belong to higher status in comparison to Gujjars of Kashmir and the Bakerwals of both the divisions. These results reveal the economic and social stratification within this tribal community. This stratification of socio-economic status can be explained in the light of following studies.

High- socio-economic status parents provide economic capital in the sense that they have additional resources to invest in their children's education (private schooling for example). Economic capital gives more freedom of movement (choice of

residency and school district). Furthermore, economic capital can translate into cultural capital in that parents can invest in educational resources that better situate their children (books, early learning programs, etc.), and in cultural markers of the upper classes (Roscigno and James, and Ainsworth-Darnell 1999). Other research has pointed to how local economic opportunity can create a “collective socialization”, namely that, areas with low education and employment levels might negatively influence the students’ educational aspirations (Willis 1977, McLeod 1991, Wilson 1996). In other words, the economic system as experienced by children can influence their perceptions of the educational system, and its relative importance toward their future. When taken at an aggregate level, these various social processes should be at least mildly discernible in some district-level data. Given the residential segregation by income and race, school districts will differ markedly in socio-economic status measures and in turn, resources available, graduation rates, and average standardized test scores. In other words, elements of social reproduction can be conceptualized with geography in mind.

Using the framework of cultural capital, Lareau’s (1987) ethnographic study of white upper middle-class and white working class and poor students argued that social class position influenced parental involvement with their children’s education. Parents of both classes wanted academic success for their children, however, working class and poor parents were less likely to take active roles in their children’s education, compared to upper middle class parents. Teachers in both schools were active in pursuing parental involvement in their children’s education. However, upper-middle class parents were more active in “reinforcing and monitoring the schoolwork of their children” than working class and poor parents. While not expressed using the language of cultural capital, Lareau (2002) builds on her past work in examining differences between both black and white, upper-middle and working/poor parents. In brief, upper middle class parents had the economic capital to enrol their children in activities that developed cultural capital, as well as transmitted their own cultural capital (reasoning, language skills, and sense of entitlement) to their children. Conversely, working class and poor parents (with far less money) did not enrol their children in numerous activities that could develop cultural capital. Furthermore, Lareau examined profound differences in parents’ interactions with professionals, including school personnel. Upper middle

class parents were more likely to have personal relationships with institutional figures such as doctors and school personnel and appeared better equipped to exert influence over these individuals. The working class and poor parents were more likely to have a “generic relationship” with institutional personnel and were more likely to be intimidated or confused in their interactions with these professionals.

*The preceding chapter presented findings of the present study, its educational implications and suggestions for further research.*



## **CHAPTER-V**

### **FINDINGS, IMPLICATION AND SUGGESTIONS**

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## CHAPTER-V

### FINDINGS, IMPLICATIONS AND SUGGESTIONS

The present chapter is based on three sub-headings that focus on the overall findings; educational implications of the study and at the end of this chapter, the investigator furnishes suggestions for further research.

#### **5.1. FINDINGS ON THE BASES OF COEFFICIENT OF CORRELATION:**

1. All the three predictor variables viz., socio-economic status, intelligence and n-Achievement were found to be statistically significant and positively correlated with the criterion variable, i.e., school achievement for the total sample of Gujjar and Bakerwal students of Jammu and Kashmir State.
2. Positive and statistically significant correlation was found between the three predictor variables viz., socio-economic status, intelligence and n-Achievement and the criterion variable school achievement, among the sub-groups of Jammu division, Kashmir division, total Gujjar sample, total Bakerwal sample and the total Gujjar and Bakerwal sample of the Jammu division and Kashmir division.
3. Positive and significant correlation was found between predictor and criterion variables of all male and female tribal sub-groups of Jammu and Kashmir State.

#### **5.2. FINDINGS ON THE BASIS OF MULTIPLE REGRESSION ANALYSIS:**

##### **For total sample:**

4. All the three predictor variables viz., socio-economic status, intelligence and n-Achievement were found to be the significant predictors of school achievement for the total Gujjar and Bakerwal sample of Jammu and Kashmir, with the predictability strength of 41.6%. The maximum variance is shared by the socio-economic status (25.6%) followed by intelligence (14.6%), and n-Achievement (1.7%).

##### **For total male and female sample:**

5. For the total male and female tribal samples socio-economic status, intelligence and n- Ach were also found to be the significant predictors of school

achievement with 49% of significant variance in the total male sample and for female sample the total contribution was 29.9%.

6. The predictability strength of socio-economic status which emerged out to be the most powerful predictor of school achievement is 33.7% for male sample, followed by intelligence with a predictable strength of 13.1% and n-Achievement with a contribution strength of 2.3%.
7. In case of female sample intelligence emerged as the most powerful predictor of school achievement with a contributing strength of 16.8%, followed by socio-economic status 12.6% and n-Achievement with 1.3%.

**For total sample of Jammu Division:**

8. The predictability strength of socio-economic status, intelligence and n-Achievement for the total sample of Jammu division was 45.9%, socio-economic status was found to be the most powerful and significant predictor of school achievement for the total sample of Jammu division with a predictable strength of 32.1% followed by intelligence 11.5%, and 2.2% of variance contributed by the n-Achievement variable.
9. For the total male sample of Jammu division these three variables contribute a total of 51.5% of the variance for the criterion variable, with 40.6% shared by socio-economic status, followed by intelligence 8.2%, and n-Achievement with a predictability strength of 2.8%.
10. For the female tribal sample of the Jammu division the predictability strength of the predictor variables was found to be 37.7%, with intelligence (20.6%) as the most powerful predictor followed by socio-economic status (15.2%) and n-Achievement contributing 1.9% of variance in the criterion variable i.e., school achievement.

**For total sample of Kashmir division:**

11. The total predictability strength of socio-economic status, intelligence and n-Achievement among the total tribal sample of Kashmir division was found to be 32.7%. Out of this 32.7% intelligence emerged as the most powerful predictor with a contribution of 18.9%, followed by socio-economic status with a

contribution of 12.8%, and n-Achievement contributing a share of 1% variance for the criterion variable.

12. In case of total tribal male sample of Kashmir division, intelligence and socio-economic status was found to be the most significant predictor of school achievement while as n-Achievement is aborted from the regression model. The intelligence plays a significant role with a contribution of 23.7%, followed by socio-economic status with a significant share of 16.8% towards the school achievement.
13. For the total female tribal sample of the Kashmir division intelligence and the socio-economic status emerged as the significant predictor of the school achievement with a share of 13.3% shared by intelligence, and 8.2% of variance shared by socio-economic status.

**For Gujjar and Bakerwal sample of Jammu division:**

14. In the total Gujjar sample of Jammu division the total variance shared by these three predictor variables was found to be 43.0%, with socio-economic status contributing a share of 31.2%, followed by intelligence 9.9% and the least share shared by n-Achievement 2.0%. In the Bakerwal sample of the Jammu division the total contribution of these three variables towards school achievement is found to be 47.5%, with intelligence as a leading predictor with a contribution of 26.2%, followed by socio-economic status 18.3% and n-Achievement contributing a significant share of 3%.

**For Gujjar and Bakerwal sample of Kashmir division:**

15. The total contribution of all the three variables was found to be 31.9% for the total Gujjar sample of Kashmir division. Intelligence is found to be a significant and the most powerful predictor of school achievement with a contribution of 13.3%, followed by socio-economic status 12.9% and n-Achievement contributing 5.7% of the variance for the criterion variable. In the total Bakerwal sample of the Kashmir division the combined contribution is found to be 47.2% comprising of 35.0% of variance shared by intelligence and 12.3% shared by socio-economic status, while as the third variable n-Achievement was aborted by the regression model.

**5.3. FINDINGS BASED ON 2 x 2 x 2 INTERACTIONAL ANALYSES:****Interactional effect of Gender (A), Clan (B), and Division (C) on school achievement of Gujjar and Bakerwals:**

16. The main effect of the gender on the school achievement of Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the school achievement of these tribal students.
17. The main effect of the clan was found to be statistically significant, indicating that clan has a significant differential effect on the school achievement of these tribal groups. Further analysis revealed that the Gujjars (55.30) possess better mean school achievement scores than the Bakerwals (50.73).
18. The main effect of division was also found to be statistically significant, indicating that division variation has a significant differential effect on the school achievement of total tribal sample. It was found that the tribal sample of Jammu (55.85) division has better mean school achievement than Kashmir (51.03) division.
19. The interactional effect of the gender and clan variation on the school achievement was found to be statistically significant. The further analysis revealed that the male sample (56.69) of the Gujjar clan is better, followed by females (52.67) of the same clan. While as, the female (51.66) of the Bakerwal clan possesses better school achievement scores than the males (49.70) of the same clan.
20. The interactional effect of the clan and division variation on the school achievement of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (57.20) of the Jammu division has better school achievement, followed by Gujjar's (52.16) of the Kashmir division. While as, the Bakerwals (52.26) of the Jammu division stands at the third rank followed by the Bakerwals (49.08) of the same division.
21. The interactional effect of gender and division on the school achievement of the total sample was found to be statistically insignificant, indicating that there is

insignificant interactional effect of division and gender on school achievement of tribal students.

22. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is no interactional effect of gender, clan and division.

**Interactional effect of Gender (A), Clan (B), and Division (C) on intelligence of Gujjar and Bakerwals:**

23. The main effect of the gender variance on the intelligence of Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the intelligence of these tribal students.
24. The main effect of clan variance was found to be statistically significant, indicating that clan has a significant differential effect on the intelligence of these tribal groups. Further analysis revealed that the Gujjars (15.0) possess better mean intelligence scores than the Bakerwals (13.42).
25. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on intelligence of the total tribal sample. It was found that the tribal sample of Jammu (14.85) division has better mean scores of intelligence than that of Kashmir (13.57) division.
26. The interactional effect of gender and clan variance on intelligence was found to be statistically significant. The further analysis revealed that the male sample (15.77) of the Gujjar clan has better intelligence, followed by females (14.24) of the same clan. While as, the male and female sample of the Bakerwal clan possess low mean scores of intelligence as compared to Gujjar sample, with a mean score of (13.76) for females and (13.07) for male sample.
27. The interactional effect of clan and division on the intelligence of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (16.35) of the Jammu division is better than rest of the three samples, followed by Gujjars of Kashmir division (13.66), Bakerwals of Kashmir division (13.492), and the Bakerwals of Jammu (13.34) division.

28. The interactional effect of gender and division on the intelligence of the total sample was also found to be statistically significant, indicating that there is a significant interactional effect of division and gender on the intelligence of tribal students. The further analysis candidly reveals that females of the Jammu (15.05) division possess the higher mean intelligence scores followed by the male sample (14.64) of the same division. While as the male (14.20) and the female (12.94) samples of the Kashmir division has lower intelligence scores.
29. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is no interactional effect of gender, clan and division on the intelligence of the total sample.

**Interactional effect of Gender (A), Clan (B), and Division (C) on the n-Achievement of Gujjar and Bakerwals:**

30. The main effect of the gender variance on the n-Achievement of the total Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the n-Achievement of these tribal students.
31. The main effect of clan variance was found to be statistically significant, indicating that clan variation has a significant differential effect on the n-Achievement of these tribal groups. Further analysis revealed that the Bakerwal (130.97) sample possesses better mean n-Achievement scores than the Gujjar (123.02) sample.
32. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on n-Achievement of the total tribal sample. It was found that the tribal sample of Kashmir (129.39) division has better mean scores of n-Achievement than that of Jammu (98.06) division.
33. The interactional effect of gender and clan variance on n-Achievement was found to be statistically significant. The further analysis revealed that the female sample (132.21) of the Bakerwal clan has higher n-Achievement scores, followed by the males (129.73) of the same clan. While as, the male (127.18) sample of the Gujjar tribe was found to be superior to the females (118.87).

34. The interactional effect of clan and division on the n-Achievement of the total sample was found to be statistically significant. The further analysis revealed that the Gujjar sample (131.22) of the Jammu division possesses higher n-Achievement scores, followed by Bakerwal (131.80) of the Kashmir division. While as the Bakerwals (130) of the Jammu division stands at the third rank followed by the Gujjars (114.82) of the Kashmir division.
35. The interactional effect of gender and division variance on the n-Achievement of the total sample was also found to be statistically insignificant, indicating that there is no significant interactional effect of division and gender on the n-Achievement of tribal students.
36. The three way interaction, i.e., gender x clan x division was found to be statistically significant, indicating that there is interactional effect of gender, clan and division on the n-Achievement of the total sample. To examine the nature of this significant interactional effect among gender, clan and division ( $A \times B \times C$ ), and for the sake of clarity the investigator decomposed this 3-way interaction into two separate two way interactions split by one of the three independent variables' variation. In our case we consider clan x division interaction separately for each Gender (i.e., male and female).

In division x clan interaction for male gender we observe an ordinal interaction in which the two lines are neither parallel nor they intersect, on the other hand, in case of gender x clan interaction for female gender we observe a disordinal interaction as the lines candidly intersect each other.

**Interactional effect of Gender (A), Clan (B), and Division (C) on socio-economic status of Gujjar and Bakerwals:**

37. The main effect of the gender variance on socio-economic status of the total Gujjar and Bakerwal tribal students was found statistically insignificant, indicating that gender variation has no significant effect on the socio-economic status of these tribal students.
38. The main effect of clan variance was found to be statistically significant, indicating that clan variation has a significant differential effect on the socio-economic status of these tribal groups. Further analysis revealed that the Gujjar



- (57.10) sample possesses better mean socio-economic status scores than the Bakerwal (49.25) sample.
39. The main effect of division variance was found to be statistically significant, indicating that division variation has a significant differential effect on socio-economic status of the total tribal sample. It was found that the tribal sample of Jammu (56.64) division has better mean scores of socio-economic status than that of Kashmir (49.87) division.
  40. The interactional effect of gender and clan variance on socio-economic status was found to be statistically significant. The further analysis revealed that the male sample (61.38) of the Gujjar clan belongs to higher socio-economic status, followed by the females (Gujjar = 52.83, Bakerwal = 52.22) of both the clans. While as, the male (46.44) sample of the Bakerwal clan belongs to lower socio-economic status.
  41. The interactional effect of clan and division on the socio-economic status of the total sample was found to be statistically significant, indicating that there is a significant interactional effect of clan and division on socio-economic status. The further analysis revealed that the Gujjar sample (Jammu = 64.15, Kashmir = 50.06) belongs to higher socio-economic status, while as the Bakerwals (Kashmir = 49.68, Jammu = 49.04) belongs to a lower socio-economic status group.
  42. The interactional effect of gender and division variance on the socio-economic status of the total sample was also found to be statistically insignificant, indicating that there is no significant interactional effect of division and gender on the socio-economic status of tribal students.
  43. The three way interaction, i.e., gender x clan x division was found to be statistically insignificant, indicating that there is interactional effect of gender, clan and division on the socio-economic status of the total sample.

#### **5.4. EDUCATIONAL IMPLICATIONS AND SUGGESTIONS:**

The educational implications and suggestions of this study will be helpful for educational planners, thinkers, demographers, teachers, psychologists, administrators,

policy makers, teacher educators and parents as stakeholders in the sustenance of the tribal education system. The study will also be helpful to counsellors and other persons who are actively involved in research. On the basis of the obtained results and the field experiences of the investigator following educational implication and suggestions for the enhancement of school achievement of these tribal groups are as under:

1. Socio-economic status emerged as the most powerful and statistically significant predictor of school achievement. Therefore, on the basis of the findings, it can be confidently stated that new schemes, programmes and policies should be introduced for the socio-economic upliftment of these tribal phratries.
2. Majority of the sample belong to lower socio-economic status comparison to Bakerwals the Gujjars occupy higher strata. Therefore, provisions should be made to set reservation for migratory tribal clans.
3. The Gujar and Bakerwal hostels are boon for the educational growth of these tribes. It was observed that products of these hostels have achieved higher positions in different walks of life. Therefore, there is a clarion call for an increase and up gradation of these hostels throughout the state.
4. During data collection it was observed that less number of Bakerwal students were found in these hostels. As they are migratory, educationally and economically backward, therefore, certain seats should be reserved for them.
5. The state government has set a number of mobile/seasonal schools for these tribes that roam along with them. These schools play a very important role in providing the elementary education. It was found that these schools lag behind in basic infrastructure and modern facilities. Therefore, rejuvenation of these schools is the need of hour and their number should be increased.
6. During field visits it was noticed that traditional methods of farming were practised by these tribes and majority rely on mono-crop cultivation (zeamaize). Provisions should be made to distribute disease resistant, high yielding and good quality seeds. Agricultural universities/institutions should take up the issues of these communities on priority basis. Provisions should be taken

- to disseminate information from lab to land. In this regard farmer's training cum skill development programmes, awareness camps, on field trial demonstration(s) should be organised. This will help them to compare the divergence of productivity and motivate them to replace their low produce seeds.
7. During interaction with Bakerwal tribes it was revealed by them that the annual yield of milk, egg, meat, and wool of their indigenous livestock is very low. Therefore, provisions should be made to introduce genetically improvised varieties of livestock that will aid in enhancing their economic conditions.
  8. Majority of tribals in general and Bakerwals in particular were unaware of various schemes meant for them. In order to generate awareness among these tribals, frequent radio advertisement in their own language (Gojiri) should be initiated. During visit to various tribal deras (make shiftment houses of the tribe) transistor was found within each tribal family, as they are very fond of their folk music.
  9. Intelligence was found as the second most important and significant predictor of school achievement. Therefore, ways and means should be adopted by teachers to nourish and nurture the cognitive capacities of these students. Various extra-curricular activities should be inculcated to enhance convergent/divergent thinking among these students. Researchers rendered emotional stress as one of the principle causes for cognitive decline and low achievement, so, teachers must render a congenial atmosphere for these tribal students.
  10. The findings also reveal that the majority of the sample was average achievers. Researchers acclaimed that, for optimal development, the child must grow up in a happier family environment; a quality family life assures better performance of the children. Therefore, a cordial relationship with parents of under achiever students' and timely interactions with them may help students to cope up with many difficulties. Parental awareness programmes, about the significance of family interaction pattern in a child's achievement must be provided through various gatherings like open house theatres, etc. Teachers should make use of positive reinforcement for developing proper achievement

behaviour. Promote achievement motivation by combining strong hope for success with low fear of failure. To acquire this proper guidance and counselling facilities should be provided to solve the problems and render help for the needy students.

11. Studies incorporated in the review of literature revealed that the high achievers have reported better study habits than the low achievers. Skill of having a sound study habit is such a promising quality. At some point of time it acts as a shield against other unfortunate psychological variables and thus protects the student from being under achiever. Hence, there is a need to inculcate a systematic and proper study habit in these tribal children. Thus, skill development programmes may be organized for the students, where factors like budgeting time, note taking style, examination writing skills, memory enhancement techniques, need for maintaining a good physical condition and health, techniques to improve reading ability and the need for learning motivation enhancement may be thoroughly discussed.
12. A number of socio-demographic factors that were found to have some association with academic achievement. It was found that gender, clan and division have a significant association with the academic achievement. Hence, the above factors should be taken into consideration while planning the interventional strategies for the Gujjar and Bakerwal students.
13. During interaction with the tribals, the investigator noticed that some of the tribals think educating their wards in the boarding schools will separate them from their occupation (livestock grazing), culture, tradition, and language. In order to overcome this mental setup ICT based education will provide an opportunity to educate them within their social milieu. To achieve this, government should distribute a preloaded laptop (with e-lectures, e-books or e-learning materials, etc.) with a solar charging system, to both the students of these tribal phratries. It will be economical and fruitful for the migratory people. It will be beneficial for the girl students also. This kind of teaching learning material will help them to be within their social milieu and they can get educated.

**5.5. SUGGESTIONS FOR FURTHER RESEARCH:**

In the light of the findings, the investigator feels to suggest following few suggestions for further research:

1. The study was confined to four districts of J&K state, so it cannot be claimed to be universally valid. It is therefore suggested that similar studies should be conducted in other districts and other parts of the country.
2. The study was confined to Gujjar and Bakerwal tribes of Jammu and Kashmir. Similar study should be conducted on other tribal groups of the state.
3. The study was confined to the students of class 9<sup>th</sup>. It should be conducted on ST students of higher secondary and college students, technical and university students.
4. In the present study the sample was only 626; similar study may be carried out with a larger sample to make broader generalization.
5. A comparative study between the tribal hosteler and tribal day scholar students is desirable.
6. The present study dealt with only three independent variables, more psychological correlates can be included in another study.
7. A comprehensive test for measuring the school achievement can be used in another study.
8. A qualitative type research should be done in order to counterbalance the findings of this quantitative research.
9. There are a number of cognitive and non-cognitive variables which are associated with Academic Achievement. Selection of such variables would yield fruitful results. A number of variables like level of aspiration, personality factors, adjustment, home environment, and liking for the subject etc. have their bearings on the motivation level and Study Habits of adolescents. There is a need to find out the contribution of each factor through empirical research.

10. Rural and urban samples may yield interesting results. It is important in case of India where large disparities are found between rural and urban.

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<sup>i</sup> Note: All these repositories were accessed frequently by the investigator since January 2012.

# **APPENDICES**

## A study of socioeconomic status among the Gujjar and Bakerwal tribal clans of J&K

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**Abstract:** Gujjar and Bakerwal is the third largest ethnic group found in the state of Jammu and Kashmir. The Gujjar and Bakerwal are two Clans of a single parent tribe. The Gujjars are settled, mostly buffaloes rearing with a good number in agriculture farming, while as Bakerwals are the nomadic tribe mostly goat rearing. Bakerwals are transhumant clan of the parent tribe moving from pasture to pasture in search of fodder. This study is an attempt to find out the socio-economic status (SES) of these two clans with respect to their living place, education, occupation, monthly income etc. A standardized tool of socio-economic status was utilized to draw information regarding the SES from both these clans. In order to find out the frequency and the percentage of the respondents belonging to a particular category the collected data has been scored and cross tab analysis was done by using the SPSS software. The study explored that both these clans are living in a miserable condition, but the SES of Gujjar clan is far better than their Bakerwal clan. The respondents of Gujjar clan are well read, nicely exposed to various policies and programs than their counter parts.

**KEY WORDS:** Tribe, Gujjar, Bakerwal and Socio-Economic Status.

### Introduction:

Autochthonous people of the land addressed by various names like, Adivasi, Vanyajati, Vanvasi, Pahari, Adimjati and Anusuchit Jan Jati, the latter being the constitutional name. At the time of independence, two categories were mostly addressed, colonies and the princely states, simultaneously a third category which was ignored and remained unrecognised was tribal's living in forests, hills and even on the plains, but secluded from the mainstream of social life (Dube 1977). According to Singh (1995), "The notion of a tribe was introduced by colonial administrators. It was part of the universal trend to dichotomize the indigenous peoples and colonizers, the savage and the civilized, the tribals and non-tribals". Several anthropologists like Ghurye 1959; Beteille 1991; Bailey 1961 hold the view that a tribe and caste are not different. Definition of the term "tribe" has long been a subject for discussion among anthropologists. The term "tribe" originated around the time of the Greek city-states and the early formation of the Roman Empire. Tribes in India come to be conceptualized primarily in relation to their geographical and social isolation from the larger Indian society and not in relation to the state. The term "tribe" has been defined in different ways by different individual scholars and hence there is no universally accepted definition. Despite the fact that the Constitution of India has made several provisions for the safeguard of tribal, but unfortunately failed to define it. It declares Scheduled Tribes are "the tribes or the tribal communities or parts of or groups within tribes or tribal communities" which the President of the country may specify by public notification (Article 342). Although from time to time various anthropologists, sociologists tried to define the term tribe, some of the common definitions available in

the tribal literatures are as follows. Derived from Latin term, "tribus" mean a group of persons forming a community and claiming descent from a common ancestor" (Oxford English Dictionary, IX, 1933, p. 339, as cited in Fried, 1975, p. 7). The dictionary of Anthropology defines a tribe "as a social group, usually with a definite area, dialect, cultural homogeneity and unifying social organization". The connotation of tribe however, has developed over the prevailing years, as Morris (1980) expresses tribe as, "Any of various systems of social organization comprising several local villages, bands, districts, lineages, or other groups and sharing a common ancestry, language, culture, and name" he also defines tribe as a "group of persons with a common occupation, interest, or habit," and "a large family." The most satisfactory definition of tribes in the Indian perspective is advocated by D.N. Majumdar (1958) as, "a tribe is a collection of families or groups of families bearing a common name, members of which occupy the same territory, speak the same language and observe certain taboos regarding marriage, profession or occupation and have developed a well-assessed system of reciprocity and mutuality of obligations".

Anyhow tribe became a prominent label during the European colonialist era for; those peoples who figure smaller, recalcitrant and who did or could not follow the "lines" of the various triumphant nation. According to Fried (1975, p. 44) tribes "are the product of specific political and economic pressures radiated from already existing state-organized societies." Subsequently the term "tribe", was often more than a little bit disparaging, but tribe served to discriminate the minorities and deviants and those only partially colonialized from the mainstream or the colonial powers. The

mainstream, of course, was under elite command and control, and the members within kowtowing and abide by with their customs, style of life, and culture, or dictated by, the proverbial powers. On the other front, tribes were people with unique affection to land, kinship ties, a idiosyncratic culture, indigenous religious beliefs, particular activities, or material possessions that distinguish and separated them from the mainstream. The tribes were in auxiliary positions, encompassing less political power and less access to resources, technology and other forms of power (p 104).

#### Tribe of Jammu and Kashmir:

The state of Jammu and Kashmir (J&K) is the only state having its own constitution. The constitution of J&K has notified twelve communities as the scheduled tribes vide two (Scheduled Tribes) order (Amendment) Act. Eight communities--- Balti, Beda, Bot, Brookpa, Changpa, Garra, Mon and Purigpa, among them were given this status in 1989; And Bakerwals<sup>1</sup>, Gujjars<sup>2</sup>, Gaddis and Sippis were notified as the scheduled tribes vide the constitution (Scheduled Tribes) order (Amendment) Act, 1991. All the twelve scheduled tribes were enumerated officially for the first time during the census 2001, recording the population of 1,105,979. The scheduled tribes account for 10.9 per cent of the total population of the state and 1.3 per cent of the tribal population of the country. Most of these tribes are found in Ladakh region of the state. However, the Gujjar and Bakerwal tribes are mostly found in Jammu and Kashmir provinces of the state. Gujjar and Bakerwals (who are the focus of this study) are found in almost every district of the state but they are mostly concentrated in the districts of Poonch, Rajouri and Khatua of the Jammu province and the sedentarization process of the transhumant Bakerwal tribals of the Jammu & Kashmir province and in Kashmir valley they are mostly found in Anantnag, Badgam, Pulwama, Kulgam and Kupwara districts.

#### Operational definitions:

##### 1. Socio economic status:

Socio economic status (SES) is the ranking of an individual by the society in which he lives, in terms of his material belonging and cultural possessions along with the degree of respect, power and influence. Eshleman and cahion 1985 defined SES as an assessment of persons education, occupation and income in a particular social system. Likewise socio economic status attainment refers to the achievement of person's relative position of education, occupation and income within that particular social system. For the present study the data were collected on twelve dimensions, via Type of living house, Possession of agricultural land for cultivation, Farm implements, Live stock/ animals, Possession of vehicle, Education of the head of the family, Occupation of head of the family, Monthly income from all sources, Drinking water facilities,

Sanitation facilities, Social participation, News paper/ magazine.

##### 2. Gujjars:

Gujjar is the name of a widely spread tribe in the north-western India. They are found in great number in every part from the Indus to Ganges and from the Hazara mountains to the peninsula of Gujarat. Outlying the Pakistan province, today the Gujjars are mostly concentrated in the states of the Jammu and Kashmir, Punjab, Himachal Pradesh, Rajasthan, Utter Pradesh and Gujarat of the Indian union. In this study the focus will be purely on the Gujjars of Jammu and Kashmir State.

In J&K, all Gujjars are Muslim and except for a few hundred families, they are nomads, semi-nomads, pastoralists and agro-pastoralists. Again, with the exception of few hundred families there are no settled agriculturist Gujjar in J&K unlike their counterparts in other states like Uttarakhand and Himachal Pradesh. Gujjars constitute 88 per cent of the total tribal population in J&K which is eight per cent of total population of the state. In terms of ethnic, cultural and linguistic classification Gujjars are the third largest identity in the state, after Kashmiri Muslims and Dogra Hindus. Their population is scattered and they move all across the state except Leh district and their largest concentration is in Poonch district at 40 per cent succeeded by 33.1 per cent in Rajouri. Next in terms of population concentration are the undivided districts of Anantnag in south Kashmir and Doda and Udhampur districts in Jammu province. Gujjars are economically perhaps the most disadvantaged section of society in J&K. Their main activity is buffalo, cow and with some exception goat and sheep rearing while some of them are engaged as agricultural workers. Education and employment amongst Gujjars is also in a dismal state. Lack of education is clearly reflected in their representation in the government services and despite the provision of reservations under the Scheduled Tribe Act; Gujjars have not been able to secure jobs proportionate to their population. However, to some extent the benefits of reservation in jobs and selections for medical and engineering colleges have percolated to these communities though a lot still remains to be done to actually alleviate their socio-economic profile.

##### 3. Bakerwals:

The term "Bakerwal" is derived from the combination of two Gojri/Urdu/Punjabi/Dogri terms "Bakri" meaning goat/sheep and "wal" meaning "one who takes care of". Essentially the name "Bakerwal" implies high-altitude goat and sheep herders. Bakerwals are primarily pastoral nomads rearing goat and sheep in high-altitudes of Greater-Himalayas during summer and spend their winter in plains and foot hills of Shwaliks. They are special nomadic tribes mainly found in the Pirpanjal range of mountains located between the

two states of Jammu and Kashmir and Himachal Pradesh. Bakerwals are also found in every corner of Northern provinces of the Himalayan range, namely the states of Uttarakhand, Himachal Pradesh and Punjab. The tribe is also known as Dhangar in several parts of India. In Jammu and Kashmir Bakerwals are stretched out in all the three regions- Jammu, Kashmir and Ladakh. In Kashmir valley they are mostly found in the districts of Anantnag, Pulwama, Shopian, Kulgam, Budgam, Kupwara etc. Bakerwals plan their activities into four major segments of time: winter, spring, summer and autumn. Secondly, they act on space and plan their activities in outer hills (winter pastures) on migratory routes and Dhoks (summer pastures). They stay in the outer hills from December to mid-April. They plan their activities in this zone according to the demands of winter season. They are migrating with their flocks (goat and sheep) towards alpine pastures of the Greater Himalayas from the last quarter of April till the first week of July. During this time they cross different topographic zones successively on the route of migration and their activities are controlled both by the passing of time as well as crossing over the space zones in regulating their daily marches according to environmental conditions. From June to September they graze on the Greater Himalayas alpine pastures from a fixed location and the activities of the transhumant are controlled both by passing of time and utilization of space. They again start returning to the winter bases in the month of October with the same route of migration and reach the outer hills zone by November every year. The nature of their oscillation, the planning of annual

and diurnal activities over space and through time is to be perceived in time-space continuum as their activities are correlated with the two most pronounced time cycles in the physical environment i.e., spring and autumn migration.

#### Objectives of the study:

To explore various dimensions of socio- economic status (Place of living, Ownership of: land, vehicle, livestock, Education, Occupation, Farm implements, Monthly income, Health and hygiene) among the tribal students of largest ethnic population of Jammu and Kashmir i.e., Gujjar and Bakerwal

#### Methodology:

The sample for the present study comprises of three hundred tribal students of class 10<sup>th</sup> from Poonch and Rajouri district of the Jammu region. Convenient Random sampling technique was adopted for the collection of data. The zone wise list of educational institutions was obtained from the office of the chief educational officer (CEO) of two districts. Only those educational zones were selected that hold a significant population of tribal students. And from each school students were selected randomly. The sample consists of 193 Gujjar respondents and 107 Bakerwal respondents. The data for assessing socio economic status was collected by using the standardised tool of socio-economic status constructed by DIVYA SINGH, AND Dr. DEEPA VINAY in 2013 [SESS(R) DSDV].

#### Results and interpretation:

1. **Place of living/ type of house:** Table 1 describes the classification of the sample based on the type house. The information regarding the type of house of the Gujjar and Bakerwal tribe has been tabulated as under.

Table 1: Distribution of sample according to the type of house					
S. No	Type of house	Frequency	Percentage	Gujjar	Bakerwal
1.	No place to live in	-	-	-	-
2.	A hut or Jhuggi	98	9.3	13 (46.42%)	15 (53.57%)
3.	Kucha house	87	29	41 (47.12%)	96 (52.87%)
4.	Mixed house	95	31.6	67 (70.52%)	28 (29.47%)
5.	Pucca house with tin shade	72	24	57 (79.16%)	15 (20.83%)
6.	Pucca house with linter	18	6	15 (83.33%)	03 (16.66%)

Glance at Table 1 shows the responses of the respondents regarding their place of living. In the table out of 300 respondents 9.3% have a hut type house, 29% have Kucha type house, 31.6% have mixed type house, 24% have pucca house with tin shade, and 6% possesses concrete house with linter. Out of this 9.3%, 46.42% and 53.57% of hut or Jhuggi type house were shared by Gujjar and Bakerwals respectively, 47.12% of kucha house and 70.52% of pucca type houses were shared by the Gujjar clan and 52.87% of kucha and 29.47% of mixed type house is shared by Bakerwal clans. Only 30% of the respondents have pucca type houses, and that too is shared by the Gujjar clan in abundance.

2. **Possession of agricultural land for cultivation:** Table 2 shows the tabulated data of respondents regarding the possession of land.

**Table 2: Distribution of Sample According to Extent and Ownership of Cultivated Land.**

S. No	Agricultural land	Frequency	Percentage	Gujjar	Bakerwal
1.	No agricultural land	08	2.6	3 (37.5%)	5 (62.5%)
2.	Agricultural land but no irrigation	91	30.33	54 (59.34%)	37 (40.65%)
3.	Rented or leased agricultural land	161	53.66	107 (66.45%)	54 (33.54%)
4.	Own agricultural land less than 1 acre.	35	11.66	26 (74.28%)	9 (25.71%)
5.	Agricultural land 1 to 5 acres	5	1.6	3 (60%)	2 (40%)
6.	Agricultural land 5 to 10 acres.	0	0	0.00%	0.00%

Perusal of the table 2 reveal that out of three hundred tribal respondents 2.6% are without land, 30.33% possesses land without irrigation facilities, 53.66% farm on rented or leased land. Only 11% have there one land but less than 1 acre while as 1.6% have land upto 1 acres. The distribution of land between the Gujjar and Bakerwals are as follows, 62.5% of Bakerwals are without land while as 37.5% of Gujjar's are in the same category. In the second category Gujjar's share 59.34%, and Bakerwals share 40.65%, from the third category Gujjar's share 66.45% while as 33.54% were shared by the Bakerwals, in the fourth category 74.28% of share is distributed among the Gujjar clan and a mean share of 25.71% is shared by Bakerwals, while as only 40% Bakerwals and 60 Gujjar's share the fifth category which stand only at 5 respondents, total share of 1.6% out of the total.

3. **Farm implements:** the possession of farm implements used by the tribes were categorised into three categories, and their distribution is as follows.

**Table 3: Distribution of Sample According to the possession of farm implements.**

S. No	Farm implements	Frequency	Percentage	Gujjar	Bakerwal
1.	Daily house hold implements	103	34.33	52 (50.48%)	51 (49.51%)
2.	Manually operated implements	171	57	115 (67.25%)	56 (32.74%)
3.	Power operated implements.	26	8.66	26 (100%)	0.00

Glance at table no. 3 define the usability of the farm tools by these tribal groups. A big chunk of 57% of tribal utilise traditional manually operated implements, while as only 8.66% of tribal have power operated farm implements, and that too within the Gujjar folk. Out of the 57% of manually operated implements 67.25% and 32.74% are shared between the Gujjar and Bakerwal categories, out of the first category of 34.33%, 50.48% and 49.51% is shared between Gujjar and Bakerwals respectively.

4. **Live stock/ animals:**

The distribution of possession of livestock/animals among the Gujjar and Bakerwal are tabulated as under

**Table 4: Distribution of Sample According to possession of live stock.**

S. No	Live stock/ animals	Frequency	Percentage	Gujjar	Bakerwal
1.	Poultry	49	16.33	36 (73.46%)	13 (26.53%)
2.	Goat	70	23.33	24 (34.28%)	46 (65.71%)
3.	Cow	83	27.66	44 (53.01%)	39 (46.98%)
4.	Buffalo	98	32.66	89 (90.81%)	09 (9.18%)

Glance at table no. 4. reveal the distribution of livestock in the tribal sample. 16.33%, 23.33%, 27.66% and 32.66% of tribal possess poultry, goats, cows, and buffaloes respectively. 73.46% of Gujjar's and 26.53% of Bakerwals possess poultry, 34.28% and 65.71% possess the goats, while as 53.01% and 46.98% of Gujjar's and Bakerwals possess the cows respectively and 90.81% of Gujjar's have buffaloes and only 9.18 % of Bakerwals have buffaloes as their livestock.

5. **Possession of vehicle:**

**Table 5: Distribution of Sample According to the possession of vehicle**

S. No	Possession of vehicle	Frequency	Percentage	Gujjar	Bakerwal
1.	No vehicle	226	75.33	130 (57.52%)	96 (42.47%)

2.	Bicycle	0	0	0	0
3.	Two wheeler	47	15.66	38 (80.85%)	9 (19.14%)
4.	Car	25	8.33	23 (92%)	2 (8%)
5.	Luxurious car	2	0.66	2 (100%)	0 (0%)
6.	Truck	0	0.00	0.00	0.00

Regarding the medium of movement from one place to another 75% of the total sample are without any kind of vehicle. 15.66% possess two wheeler (bike) 8.33% possesses a car, and 0.66% possesses a luxurious cars. Out of this distribution 57.52% of Gujjar's and 42.47% of Bakerwals don't possess any convenient vehicles of their own. While as from the third category 80.85% of Gujjar's have two wheelers while as 19.14 % of Bakerwals fall in this category. In the fourth category 92% is shared by Gujjar's while as 8% is shared by the Bakerwals. While as the mean share of 0.66% of total sample possess luxurious cars and that is totally shared by the Gujjar clan.

#### 6. Education of the head of the family:

**Table 6: Distribution of Sample According to education of the head of the family.**

S. No		Frequency	Percentage	Gujjar	Bakerwal
1.	Illiterate	82	27.33	25 (30.48%)	57 (69.51%)
2.	1-5	76	25.33	44 (57.89%)	32 (42.10 %)
3.	6- 10	45	15.00	35 (77.77%)	10 (22.22%)
4.	11-12	38	12.66	34 (89.47%)	4 (10.52%)
5.	Graduation	57	19.00	53 (92.98%)	4 (7.01%)
6.	Technical diploma	-	-	-	-
7.	Post graduate	02	0.6	2 (100%)	0

Table no. 6 describes the educational qualification of the parents of the students of the total sample, most of the students were First Generation Learners, and more than 60% parents of the respondents were illiterate. 27.33 % are those that never tasted education. 25.33% are dropouts at primary stage, 15% where in the category of 6-10<sup>th</sup> class, only 12% where found in the higher secondary level. 19 % where graduates and 0.6% where post graduate, with no one technical education. In education Gujjars are far ahead from their counter partner Bakerwal clan.

#### 7. Occupation of head of the family:

The occupation of the head of the family were categorised into 8 categories, wage labour (persons who are daily wage labours having no skill at all) skilled labours (persons having some skill, like mason, factory worker, craft worker, paper machie worker, mechanics etc) employed (government or private job in-service persons) farming (agricultural, farming, sericulture, apiculture etc) professional (doctor, engineer etc)

**Table 7 Distribution of the sample population according to the Occupational Structure**

S. No	occupation	Frequency	Percentage	Gujjar	Bakerwal
1.	Wage labour	83	27.66	47 (56.62%)	36 (43.37%)
2.	Skilled labour	12	4.00	07 (58.33%)	05 (41.66%)
4.	Employed	95	31.66	75(78.94%)	20 (21.05%)
5.	Shop owner	12	4.00	09 (75%)	3 (25%)
6.	Farming	82	27.33	51 (62.19%)	31 (37.80%)
7.	Professional	-	-	-	-
8.	Other	16	5.33	04 (25%)	12 (75%)

Table no. 7 reveal that 27.66% of the total sample where daily workers or wage labourer, 4% were skilled labours, 31.66% are employed, 4 % are shop keepers, 27.33% opted farmers, and 5.33% are in other category. In the employed category approximately 80% of the share is shared by the Gujjars while as 21% of Bakerwal respondents are employed.

#### 8. Monthly income from all sources:

To obtain information regarding the income, there are five categories starting from below 5000 to above 20000.



**Table 8 distribution of sample population according to monthly income**

S. No	Monthly income	Frequency	Percentage	Gujjar	Bakerval
1.	Upto 5000	112	37.33	58 (51.78%)	54 (48.21%)
2.	5001- 9999	110	36.66	72 (65.45%)	38 (34.54%)
3.	10000- 14999	62	20.66	52 (83.87%)	10 (16.12%)
4.	15000- 19999	09	3	06 (66.66%)	03 (33.33%)
5.	Above 20000	07	2	05 (71.42%)	02 (28.57%)

Table no 8 Brings out the classification of the eligible sample based on the income derived from all sources. 37.33 % of the sample has income below 5000, 36.66% of the sample has income in ranging from 5000 to 10,000, 20.66% respondents have income 10,000 to 15,000 only 35% is in 15,000 to 20,000 category and only 2% are having above 20,000 monthly incomes.

#### 9. Drinking water facilities:

Table 9 brings out the classification of the sample households based on the type of the source of drinking water. This variable is considered because in forest area, lack of safe drinking water is the main reason for high disease prevalence. In fact, these areas are like disease prone areas where they are the first to be affected in the country with any type of disease. Nevertheless, this is only one of the reasons for the high rate of disease prevalence. In the study area, out of sample 300 respondents only 35.33 percent are able to get protected source of drinking water. This indicates that the majority of the sample is far away from the use of safe drinking water. This indicates that a bit more action-oriented activities are needed in this part.

**Table 9 Distribution of sample according to the availability of quality Drinking Water**

S. No	Source of drinking water	Frequency	Percentage	Gujjar	Bakerval
1.	Arranged from un protected sources	194	64.66	98 (50.51%)	95 (48.96%)
2.	Arranged from protected sources	106	35.33	95 (89.62%)	11 (10.37%)

#### 10. Sanitation facilities:

In the rural areas especially for the hill regions sanitation facilities are very poor. The information regarding to this variable can be obtained by asking the availability of toilet in the house such as individual pit, community pit toilet etc.

**Table 10 distribution of the sample according to the type of sanitation available.**

S. No		Frequency	Percentage	Gujjar	Bakerval
1.	No availability of toilet	89	29.66	48 (53.94%)	41 (46.06%)
2.	Pit toilet	128	42.66	73 (57.03%)	55 (42.96%)
3.	Community toilet	51	17	45 (88.23%)	8 (15.6%)
4.	Sanitation with flush system	32	10	27 (84.37%)	5 (15.62%)

Perusal of the table no. 10 it is evident that most of the tribal people use pit toilet comprising of 42.66%. Only 29.66 % of total sample is devoid of toilet facilities, and 17% of the sample population use community pit toilet; while as only 10% of the sample population possess flush system.

#### Discussion:

The study revealed that the Gujjar tribe is well settled than the Bakerval tribe. The reason behind it is most of the Gujjars are settled with their own houses, buffalo rearing, agriculturist, and settled in the villages that are very close to main markets. Thus enjoying the easy access to various facilities like education, health, transportation, etc, while as

the Bakerval Clan are nomadic in nature they are roaming from one place to another in search of fodder for their goats, they usually prefer the grazing lands of the upper reaches of the Himalayas, thus, far from the hustle and bustle of the society and ignorant of various policies and programmes available for them.

#### Findings of the study:

After analysing and interpreting the data following conclusions were drawn:

1. The major tribe's of the Jammu and Kashmir i.e., Gujjar and Bakerwal have low socioeconomic status, and living in worst condition.
2. Majority of the dwelling places of these tribal groups are still unhygienic, it was found in many cases that the cattle and human share same home, without proper ventilating and prone to diseases. One thirty percent of the respondents possess pucca houses, with majority in Gujjar clan (80%), and only (20%) in Bakerwal clan. Majority of the Bakerwals have kucha houses (temporary shedding) with 2-4 rooms and mostly shared with cattle's.
3. As these tribal people reside in the forests (Bakerwals) or in foot hill (Gujjars), access to own a land is mostly within the Gujjar Clan, without proper irrigation and that too within the range of one acre. As the maintenance of the hilly land is a hectic job. For Bakerwals the concept of land means only the grazing land for their flocks, which is not owned by them, they may crop maize for the seasonal period which is taken as a meal for them.
4. The farming in these hilly terrains is difficult, and most of the tribal people utilize old traditional ways of farm implements. Only 8% of Gujjar population using the power operated implements. In most of the cases common household farm implements like that of shovel, axe, post digger, wooden plough, plastic hoes, etc where used for agricultural purposes.
5. Both these tribal clans rear animals with Gujjars having buffaloes, cows, poultry while as the Bakerwals strictly rely on goat, sheep flocks, main reason for their transhumant.
6. Majority of the Gujjar and Bakerwal does not own vehicles, but some of the well to do families own light vehicles, majority make use of mule or horses as an option of transportation.
7. In education both the tribes are far behind, with non in technical education, mostly illiterate family heads. Bakerwals lag behind the Gujjars at every stage or level of education; the major cause for this is unawareness of the various schemes and programmes meant for the tribal people.
8. Most of the tribal's work as daily wagers. Only 4% are skilled but that too at village level, among Gujjars farming, shopkeeper, employment is a source of income while as for Bakerwals majority opt wage labour.
9. Most of the Gujjar and Bakerwals have monthly income ranging between 3,000-10,000 nearly 80% of the sample fall in this category.
10. The Gujjar and Bakerwals are the habitants of forest area where the drinking water facilities are not available, and most often they prefer to have drinking from sources like rivulets, springs, stagnant ditches, etc all of them are open and mostly unprotected.
11. The sanitation facilities available to them is pit or composite toilet 43% of the respondents have this kind of open unhygienic kind of toilets, only 10% of the respondents have flush system in their homes.
12. In the questionnaire there was the option of access to news paper, out of 300 respondents only two respondents responded this item. Sending a message that none of them is aware of the daily news.

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i Ins. by the Constitution (Scheduled Tribes) Order (Amendment) Act, 1991 (36 of 1991), s. 2(a) (W.e.f .....19-4-1991).

ii Ins. by ibid., s. 2 (b) (w.e.f. 20-8-1991)

## Appendix-B

### PERSONAL INFORMATION SHEET

1. Name of the student -----
2. Name of the school -----
3. Address of the school-----  
-----
4. Class -----
5. Sex male/female -----
6. Hostler/day scholar -----
7. Residence ----- Tehsil -----  
District ----- Division -----
8. Rural/urban -----
9. Cast -----
10. Tribal/non-tribal -----<sup>o</sup>
11. Category Gen/ Sc/St/OBC/RBA -----
12. Religion -----
13. Marks/grade/Percentage -----

## Appendix-C



(Revised English / Hindi Edition 1999)

### **Test of 'g' : CULTURE FAIR** **Scale 2, Form A**

(Originally prepared by : R. B. Cattell and A. K. S. Cattell)

Prepared by : R. N. Singh and S. D. Kapoor

Name (नाम)	First	Last	Sex (लिंग)	(M or F)
Name of School (or Address)				
स्कूल का नाम (या अपना पता)				
Class (कक्षा)	Father/Guardian Monthly Income			
	पिता/अभिभावक की मासिक आय			
Date of Birth (जन्म-तिथि)	Age (आयु)	Date (दिनांक)		

Test	Score	Remarks
1		
2		
3		
4		
		Total Score

M. A. \_\_\_\_\_

C. A. \_\_\_\_\_

I. Q. \_\_\_\_\_

**Do not turn the page until told to do so**  
**जब तक कहा न जाय, कृपया पन्ना मत उलटिये**

# TEST - 1

## पहली परीक्षा

Example  
(उदाहरण)

	1	2	3	4	5	Answers
						उत्तर 1

1.							
2.							
3.							
4.							
5.							

(1)

Go on to the next page  
आगे की लाइनों को अगले पृष्ठ पर देखें

STOP! Do not turn the page until told to do so

रुको रहिये - जब तक कहल न जाय, पन्ना मत खोलिये

(2)

End of Test I  
परीक्षा समाप्त






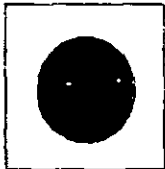
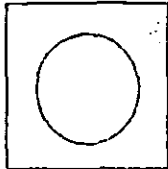

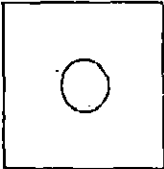
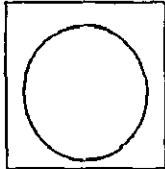
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<input type="checkbox"/>	11.						
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<input type="checkbox"/>	6.						
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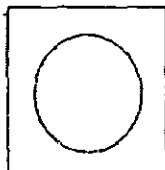
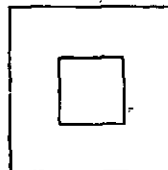
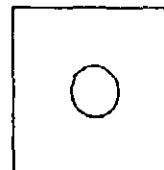
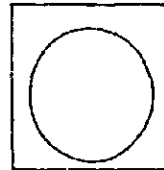
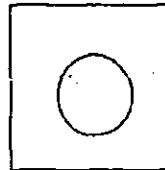
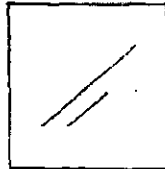

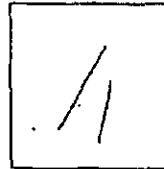


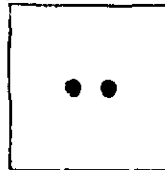
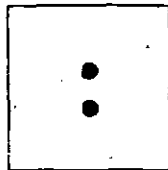
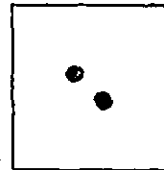
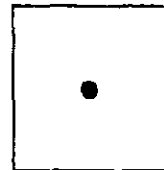
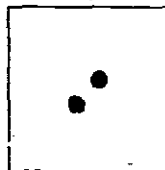
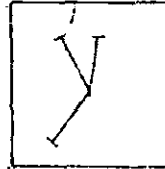
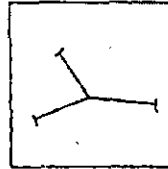
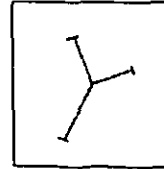
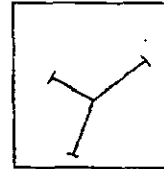
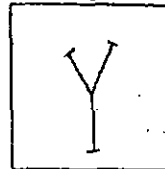

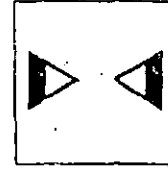

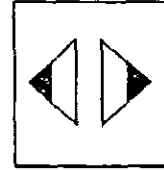
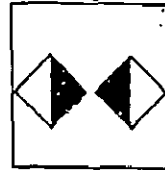

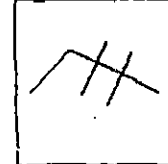

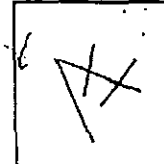
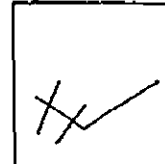
उत्तर  
Answers

# TEST - 2

## दूसरी परीक्षा

Example (उदाहरण)

1	2	3	4	5	Answers उत्तर
					<input checked="" type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>

1	2	3	4	5	
					<input type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>
1	2	3	4	5	
					<input type="checkbox"/>

(3) Go on to the next page  
आगे की लाइनों को अगले पृष्ठ पर देखें

	1	2	3	4	5	Answers उत्तर
7.						<input type="checkbox"/>
8.						<input type="checkbox"/>
9.						<input type="checkbox"/>
10.						<input type="checkbox"/>
11.						<input type="checkbox"/>
12.						<input type="checkbox"/>
13.						<input type="checkbox"/>
14.						<input type="checkbox"/>

End of Test 2  
दूसरी परीक्षा समाप्त

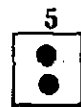
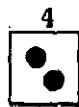
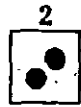
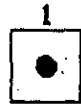
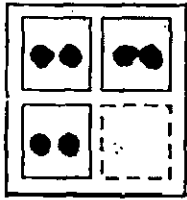
(4)



# TEST - 3

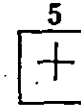
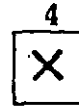
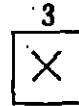
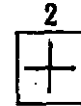
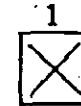
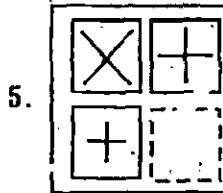
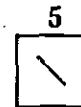
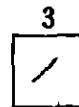
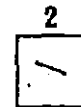
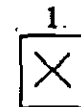
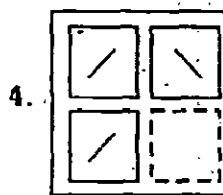
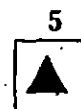
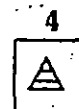
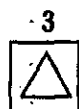
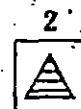
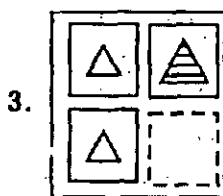
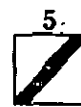
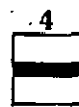
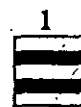
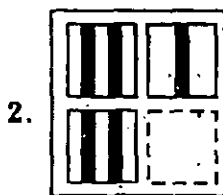
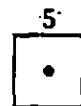
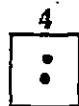
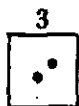
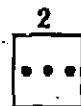
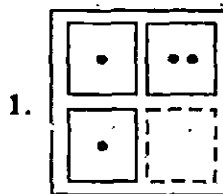
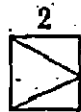
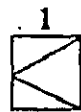
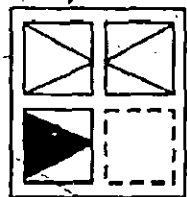
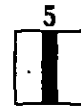
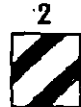
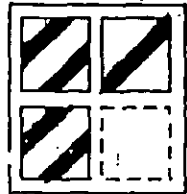
## तीसरी परीक्षा

Example (उदाहरण)



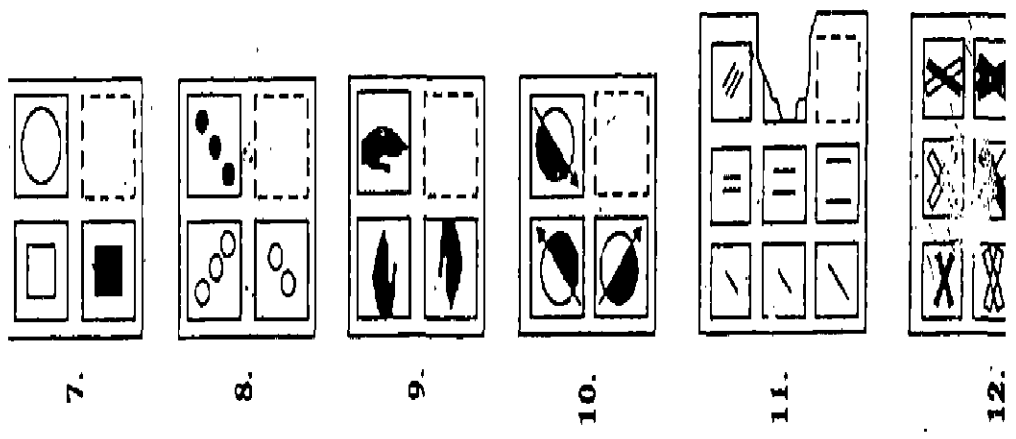
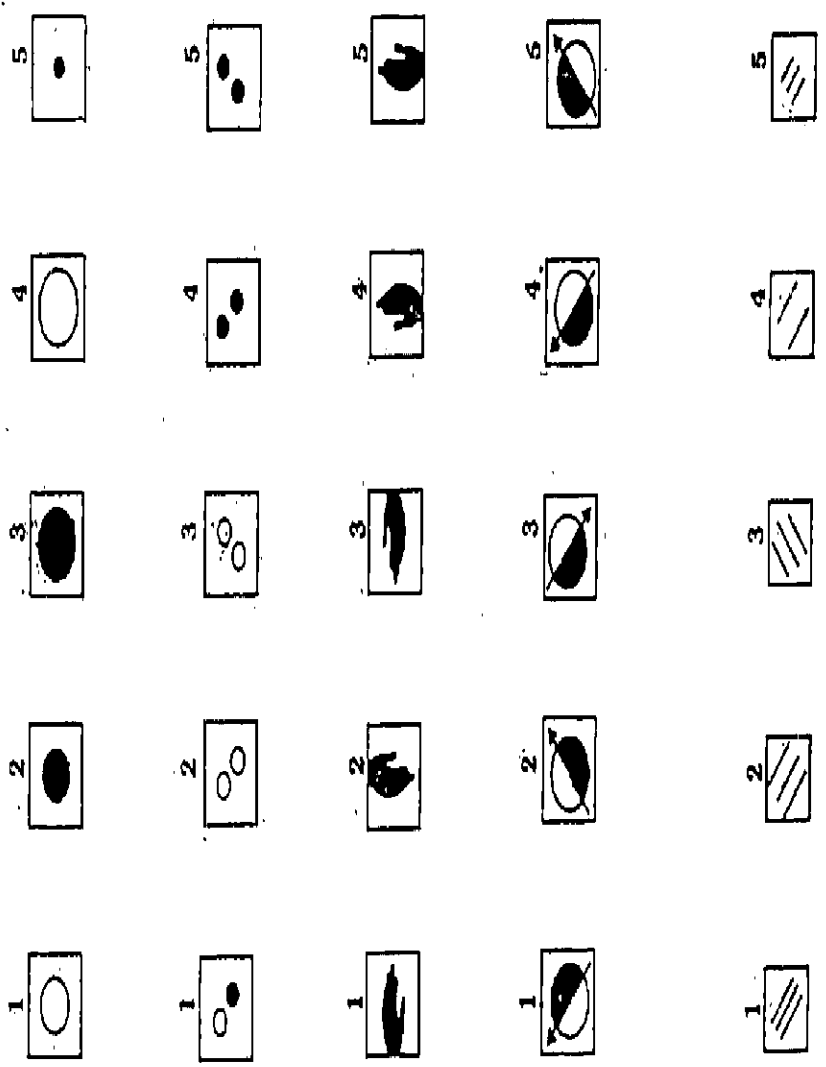
Answers  
उत्तर

3



(5)

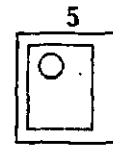
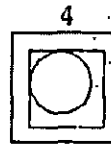
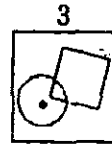
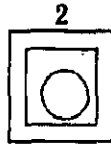
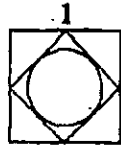
Go on to the next page .  
आगे की लाइनों को अगले पृष्ठ पर देखें



# TEST - 4

## चौथी परीक्षा

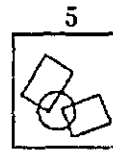
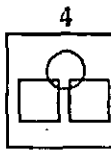
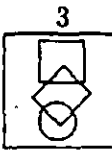
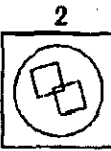
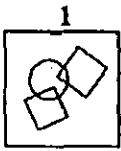
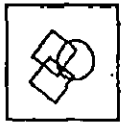
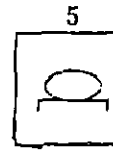
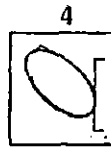
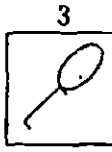
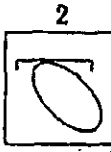
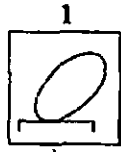
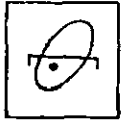
Example (उदाहरण)



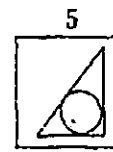
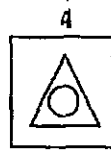
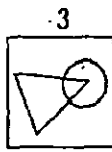
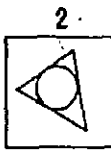
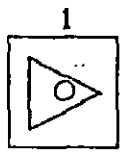
Answers

उत्तर

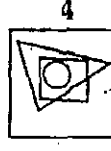
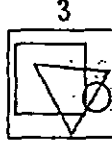
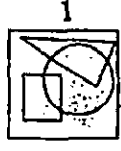
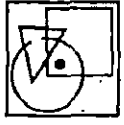
3



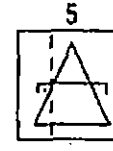
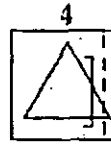
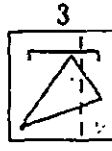
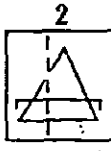
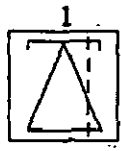
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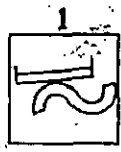
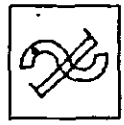
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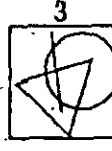
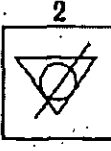
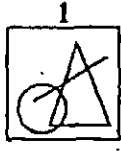
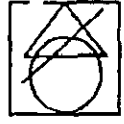
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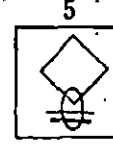
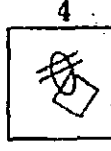
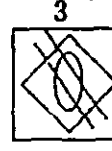
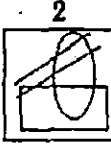
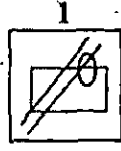
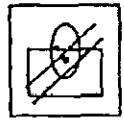
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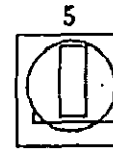
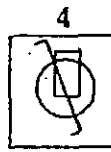
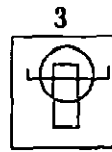
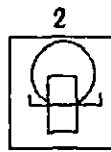
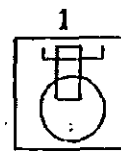
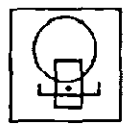
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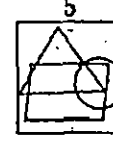
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End of Test 4

चौथी परीक्षा समाप्त

(7)

## Appendix-D

# Reusable Booklet of Achievement Motivation Scale (n-Ach)



( *English Version* )

Prof. Pratibha Deo (*Pune*)

*and*

Dr. Asha Mohan (*Chandigarh*)



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**NATIONAL PSYCHOLOGICAL CORPORATION**

4/230, KACHERI GHAT, AGRA-282 004 (INDIA)

S. N.	Items
1.	I shall be very much pleased if I have to miss the classes for some days.
2.	I pay full attention to the work in the class.
3.	I mind much if I reach late in the class.
4.	I love to read more and more to find unknown regions of knowledge.
5.	I love to have a personal library, not counting text-books.
6.	I set standards for myself and then strive to achieve them.
7.	I wish to specialize and become top most in the field of my liking.
8.	I like to experiment and create new things and surprise people.
9.	I work hard for hours together to be successful in whatever I undertake.
10.	I have a tendency to find solutions of problems and puzzles other people fail at.
11.	I aspire to get excellent results in all academic competitions.
12.	I am ready to leave the job half done and try a new one.
13.	I get nervous in the examination if one or two questions are not from the syllabus.
14.	I prefer to go to a party rather than prepare for an examination next week.
15.	On getting low marks, I feel disappointed and determine to work hard to do better next time.
16.	I think, I find my lessons meaningful and interesting.
17.	While studying, my mind wanders off the lesson and I get lost in imagination.
18.	I think, it is better to gossip away in the canteen than to attend the classes.

S. N.	Items
19.	When the teacher is teaching, I like to read stories/novels/comics or make cartoons in the class.
20.	The school/college haunts me and I want to leave it at the very first opportunity.
21.	It irritates me a lot if I have to stay late in the school/college for some lectures.
22.	I want to go to college/university because there is a plenty of opportunity to enjoy life.
23.	I think studies, sports and other activities can go together.
24.	I agree that the present course of my study will help making my future life a success.
25.	I feel very much frustrated if I do not get a chance to compete in the field of my choice.
26.	I regularly take down notes in the class and complete my assignments.
27.	I plan to study carefully all the year round in an effort to get good marks in all the subjects in all the tests.
28.	I believe in work first and play later.
29.	I do a lot of preparation at home for the next day's work in the class.
30.	I like to ask questions regarding every information given in tables and charts in the books rather than leave them as such and read further.
31.	I think my teachers are competent in their work.
32.	I like to create nuisance in the class and annoy the teacher.
33.	I try my utmost to please my teacher through work and not through flattery.
34.	My friends consider me dull and shirker.
35.	It is true that my teachers think of me as a sincere and hard working student.

S. N.	Items
36.	I feel hurt if others (parents, teachers and friends) criticise me and I try to improve upon my weaknesses.
37.	My parents advise me to take life easy and never bother too much for studies or for future life.
38.	I wish to carry my mission forward inspite of facing a lot of criticism.
39.	I think of life to be an intellectual challenge.
40.	I am interested in organizing the activities of a group/team/class/committee.
41.	I try to get associated with top most person in the field of my choice.
42.	I love to have some adventure in my leisure hour.
43.	I would like to watch a surgical operation being performed.
44.	I like to compete in dramatics.
45.	I think of dancing and music to be good hobbies for students.
46.	I have a strong desire to be a champion in games/sports/athletics.
47.	I have tried to get in the sports team of my school/college, to represent my team in other states or countries.
48.	I believe sports develop initiative, leadership and discipline.
49.	Hill climbing and mountaineering are a welcome challenge, I would like to take.
50.	On a holiday, I prefer going for cycling, swimming or boating to sitting at home without much work.

## Appendix-E



**Divya Singh (Pantnagar)**  
**Dr. Deepa Vinay (Pantnagar)**

**Consumable Booklet  
of  
SESS(R)-DSDV**  
(English/Hindi Version)

**Please fill in the following informations :**      **Date**                        

Name (नाम) \_\_\_\_\_ Father's Name (पिता का नाम) \_\_\_\_\_

Date of Birth (जन्मतिथि) \_\_\_\_\_ Academic Qualification (शैक्षिक योग्यता) \_\_\_\_\_

Type of Family (परिवार के प्रकार) : Single (एकाकी) ☐

Nuclear Family (पूल परिवार) ☐ Joint Family (संयुक्त परिवार) ☐

Number of Family (परिवार के सदस्यों की संख्या) : 1 to 3 ☐ 4 to 6 ☐ 7-9 ☐ More than 9 ☐

Professional Qualification (प्रशिक्षक योग्यता) \_\_\_\_\_

Designation (पद पर कार्यरत) \_\_\_\_\_ Office/Institution (कार्यालय/संस्था) \_\_\_\_\_

Address (पता) \_\_\_\_\_

### INSTRUCTIONS /निर्देश

On the following pages in 13 parts, some questions about facilities etc. You have been put. You read each carefully and on the basis of the present status, encircle the number against. Answer to all the 13 parts and each question. Your answers will be kept confidential each of item.

आगे के पृष्ठों पर 13 भागों में आपके पास उपलब्ध सुविधाओं के बारे में प्रश्न हैं। आप उन्हें ध्यानपूर्वक पढ़ें तथा आपके पास वर्तमान में उपलब्ध स्तर के आधार पर प्रश्न के सामने दिये गये अंक के चारों ओर गोला बना दें। कृपया सभी 13 भागों के सभी प्रश्नों के उत्तर दें। आपके उत्तरों को गोपनीय रखा जायेगा।

### Scoring Table

	Raw Score						z-Score	Grade	Level of SESS(R)
Page	3	4	5	6	7	8			
Score									
Total Score									

# MANASVI

UG-1, Nirmal Heights Market, Mathura Road, AGRA-282 007



Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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Please encircle the related numbers(s) (कृपया सम्बन्धित अंक(अंकों) के चारों ओर गोला बनाइये)–

1. Living in a type of house (रहने के मकान का प्रकार) :

- (a) No place to live, pavement, mobile cart  
(कोई नहीं, फुटपाथ/गाड़ोदिया)
- (b) Jhuggi/Hut (झुग्गी/झोंपड़ी)
- (c) Kachcha house (कच्चा मकान)
- (d) Mixed house (मिश्रित मकान)
- (e) Pakka house with tin shade (पक्का मकान टिन शेड सहित)
- (f) Pakka house with Linter (पक्का मकान पक्की छत)

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Total योग

2. Family possessions/Material possessions (परिवार में उपलब्ध वस्तुएँ) :

(I) Kitchen resources

- (a) Traditional chullas (पुराने प्रकार का चूल्हा)
- (b) Smokeless chullas (निर्धूम चूल्हा)
- (c) Pressure cooker (प्रेसर कुकर)
- (d) Gas cylinder (LPG) (एल.पी.जी. गैस सिलिण्डर)
- (e) Bio gas (बायो-गैस)
- (f) Cooking range (कूकिंग रेंज)
- (g) Solar cooker (सोलर कुकर)
- (h) Microwave or Oven (माइक्रोवेव ओवन)

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Total योग

(II) Furniture resources (उपलब्ध फर्नीचर)

- (a) Table (टेबल)
- (b) Chair (कुर्सी)
- (c) Stool (स्टूल)
- (d) Folding cot (फोल्डिंग पलंग)
- (e) Single bed (सिंगल पलंग)
- (f) Double bed (डबल पलंग)
- (g) Sofa set (सोफा सेट)
- (h) Dinning table (डाइनिंग टेबल)
- (i) Sponge mattress (स्पोज का गद्दा)

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Total योग

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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Please encircle the related numbers(s) (कृपया सम्बन्धित अंक(अंकों) के चारों ओर गोला बनाइये) —

1. Living in a type of house (रहने के मकान का प्रकार) :

- (a) No place to live, pavement, mobile cart  
(कोई नहीं, फुटपाथ/गाड़ी/ट्रिया)
- (b) Jhuggi/Hut (झुग्गी/झोंपड़ी)
- (c) Kachcha house (कच्चा मकान)
- (d) Mixed house (मिश्रित मकान)
- (e) Pakka house with tin shade (पक्का मकान टिन शेड सहित)
- (f) Pakka house with Linter (पक्का मकान पक्की छत)

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Total योग

2. Family possessions/Material possessions (परिवार में उपलब्ध वस्तुएँ) :

(I) Kitchen resources

- (a) Traditional chullas (पुराने प्रकार का चूल्हा)
- (b) Smokeless chullas (निर्धूम चूल्हा)
- (c) Pressure cooker (प्रेसर कुकर)
- (d) Gas cylinder (LPG) (एल.पी.जी. गैस सिलिण्डर)
- (e) Bio gas (बायो-गैस)
- (f) Cooking range (कूकिंग रेंज)
- (g) Solar cooker (सोलर कुकर)
- (h) Microwave or Oven (माइक्रोवेव ओवन)

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Total योग

(II) Furniture resources (उपलब्ध फर्नीचर)

- (a) Table (टेबल)
- (b) Chair (कुर्सी)
- (c) Stool (स्टूल)
- (d) Folding cot (फोल्डिंग पलंग)
- (e) Single bed (सिंगल पलंग)
- (f) Double bed (डबल पलंग)
- (g) Sofa set (सोफा सेट)
- (h) Dinning table (डाइनिंग टेबल)
- (i) Sponge mattress (स्पोज का गद्दा)

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Total योग

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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**(III) Entertainments resources** (मनोरंजन उपकरण)

- (a) Radio/Transistor (रेडियो/ट्रांजिस्टर) ☐
- (b) Music system/Tape Recorder (म्यूजिक सिस्टम/टेप रिकार्डर) ☐
- (c) Mobile or Telephone (मोबाइल/टेलिफोन) ☐
- (d) B/W T.V. (श्वेत-श्याम टी.वी.) ☐
- (e) Coloured T.V. (रंगीन टी.वी.) ☐
- (f) Dish antenna (डिश एन्टिना) ☐
- (g) Computer (कम्प्यूटर) ☐
- (h) Laptop or LED (लेपटॉप/एल.ई.डी.) ☐

Total योग **(IV) Electrical resources** (विद्युत उपकरण)

- (a) Electric press (विजली की प्रेस) ☐
- (b) Heater (हीटर) ☐
- (c) Blower (ब्लोअर) ☐
- (d) Mixer grinder (मिक्सर ग्राइण्डर) ☐
- (e) Refrigerator (रेफ्रिजरेटर) ☐
- (f) Washing Machine (वाशिंग मशीन) ☐
- (g) Digital camera (डिजिटल कैमरा) ☐
- (h) Air conditioner (एअर कन्डीशनर) ☐

Total योग **3. Possessions of agricultural land for cultivation** (कृषि हेतु भूमि का स्वामित्व) :

- (a) No agricultural land (कोई कृषि भूमि नहीं) ☐
- (b) Agricultural land but no irrigation  
(कृषि भूमि पर सिंचाई के साधन नहीं) ☐
- (c) Rented or leased Agricultural land (किराये या लीज पर कृषि भूमि) ☐
- (d) Own agricultural land less than 1 acres  
(एक एकड़ से कम स्वयं की कृषि भूमि) ☐

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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- (e) Own agricultural land 1 to 5 acres  
(1 से 5 एकड़ तक स्वयं की कृषि भूमि)
- (f) Own agricultural land 5.1 to 10 acres  
(5.1 से 10 एकड़ तक स्वयं की कृषि भूमि)
- (g) Own agricultural land more than 10 acres  
(10 एकड़ से अधिक स्वयं की कृषि भूमि)

☐☐☐Total योग 

## 4. Farm Implements (कृषि उपकरण) :

- (a) Sickle (हंसिया)
- (b) Pick-axe (कुल्हाड़ी)
- (c) Shovel (फावड़ा/बेलचा)
- (d) Posting digger (खुदाई का औजार)
- (e) Agricultural hoes (सिंचाई का पाइप)
- (f) Chaff-cutter (भूसा कटर)
- (g) Agricultural plough (कृषि हल)
- (h) Land leveler (भूमि समतल करने के औजार)
- (i) Harrow (पटेला)
- (j) Sprayer (फव्वारा)
- (k) Water pump (पानी का पम्प)
- (l) Thresher (पीसने वाली मशीन [थ्रेशर])
- (m) Tiller (भूमि जोतने का यन्त्र [टिलर])
- (n) Tractor (ट्रैक्टर)
- (o) Combined harvester (हार्वेस्टर)

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## 5. Livestock/Animal (जानवर) :

- (a) Poultry (पोल्ट्री [मुर्गीखाना])
- (b) Goat (बकरियाँ)
- (c) Cow (गायें)
- (d) Buffalo (भैंसें)

☐☐☐☐Total योग

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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## 6. Possession of vehicle (यातायात के साधन) :

- (a) No vehicle (कोई गाड़ी नहीं)  
 (b) Bicycle (बाईसिकल)  
 (c) Scooty/Scooter (स्कूटी/स्कूटर)  
 (d) Motor Cycle (मोटर साइकिल)  
 (e) Jeep (जीप)  
 (f) Car (कार)  
 (g) Luxurious car (लक्जरी कार)  
 (h) Truck (ट्रक)

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## 7. Education of head of the family (परिवार के मुखिया की शिक्षा) :

- (a) Illiterate (अशिक्षित)  
 (b) Functionally literate (साक्षर)  
 (c) Primary education (प्राथमिक शिक्षा)  
 (d) High School (माध्यमिक शिक्षा)  
 (e) Intermediate/ Senior Secondary (इंटरमीडिएट/उच्च माध्यमिक)  
 (f) Graduate (ग्रेजुएट) स्नातक  
 (g) Technical diploma (तकनीकी डिप्लोमा)  
 (h) Post graduate (पोस्ट ग्रेजुएट) परास्नातक

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Total योग 

## 8. Occupation of head of the family (परिवार के मुखिया का व्यवसाय) :

- (a) Unemployed (बेरोजगार)  
 (b) Unskilled workers (अकुशल मजदूर)  
 (c) Semi-skilled workers (अर्ध-कुशल कारीगर)  
 (d) Skilled workers (कुशल कारीगर)  
 (e) Clerical (लिपिक)  
 (f) Shop owner (दुकानदार)  
 (g) Farming (कृषि कार्य)  
 (h) Semi professional (अर्द्ध-प्रोफेशनल)  
 (i) Professional (प्रोफेशनल)

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Total योग

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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9. Monthly family income from all sources (सभी श्रोतों से परिवार की मासिक आय) :

- (a) up to 5000 (रु. 5000 तक) ☐
- (b) 5001-9999 (रु. 5001 से 9999 तक) ☐
- (c) 10000-14999 (रु. 10000 से 14999 तक) ☐
- (d) 15000-19999 (रु. 15000 से 19999 तक) ☐
- (e) 20000-24999 (रु. 20000 से 24999 तक) ☐
- (f) 25000-29999 (रु. 25000 से 29999 तक) ☐
- (g) 30000 and more (रु. 30000 व अधिक) ☐

Total योग

10. Drinking water facility (पेयजल सुविधा) :

- (a) Drinking water is arranged from other source away from house (पीने का पानी घर से दूर से लाया जाता है) ☐
- (b) Drinking water available with community source without drainage (सार्वजनिक स्थान पर पेयजल उपलब्ध पर नाली की सुविधा नहीं) ☐
- (c) Drinking water available with community source with drainage (सार्वजनिक स्थान पर नाली की सुविधा सहित पेयजल उपलब्ध) ☐
- (d) Drinking water available for 2-3 house or share the same source of water with kachcha drainage (2-3 घरों द्वारा पानी के श्रोत का उपयोग पर नाली कच्ची) ☐
- (e) Individual drinking water facility along with kachacha drainage (by government) (स्वयं के पानी की व्यवस्था पर नाली कच्ची) (सरकार द्वारा) ☐
- (f) Multiple source of drinking water with pakka drainage (e.g Tap, tube well etc.) (पेयजल के अनेक श्रोत—नल, ट्यूबवेल इत्यादि, पक्की नाली सहित) ☐
- (g) Individual drinking water facility along with pakka drainage and water purifier (स्वयं के पानी की व्यवस्था, पानी शुद्धिकरण तथा पक्की नाली) ☐

Total योग

Sr. No. क्रमांक	STATEMENT कथन	Score प्राप्तांक
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## 11. Sanitation facility (शौचालय सुविधा) :

- (a) No availability of Toilet (शौचालय नहीं) ☐
- (b) Community pit Toilet (सम्मिलित शौचालय) ☐
- (c) Individual pit Toilet (सार्वजनिक शौचालय [खुला]) ☐
- (d) Community sanitary Toilet without water facility  
(सार्वजनिक शौचालय, पानी की व्यवस्था नहीं) ☐
- (e) Individual sanitary Toilet without water facility  
(वैयक्तिक शौचालय बिना पानी की व्यवस्था के) ☐
- (f) Community sanitary Toilet with water facility  
(सार्वजनिक शौचालय पानी की व्यवस्था सहित) ☐
- (g) Individual sanitary Toilet with water facility  
(वैयक्तिक शौचालय पानी की व्यवस्था सहित) ☐

Total योग 

## 12. Social participation of family members

(परिवार के सदस्यों की समाज में भूमिका) :

- (a) Without any official position (बिना किसी पद के) ☐
- (b) Without any official position but active participation  
in village activities  
(बिना पद के गाँव के कार्यक्रमों में सक्रिय भागीदारी) ☐
- (c) Official position in more than one organization  
(एक से अधिक संस्थाओं में पद) ☐
- (d) Financially contribution and raising fund  
(सार्वजनिक कार्य हेतु आर्थिक सहयोग व धन की व्यवस्था) ☐

Total योग 

## 13. Type of newspaper/magazine you purchase

(समाचार पत्र/मैगजीन) :

- (a) Daily (दैनिक) ☐
- (b) Weekly (साप्ताहिक) ☐
- (c) Monthly (मासिक) ☐
- (d) Quaterly (त्रैमासिक) ☐
- (e) Yearly (वार्षिक) ☐

Total योग Grand Total कुल योग

## **APPENDIX-F**

### **THE CONSTITUTION (JAMMU AND KASHMIR) SCHEDULED TRIBES ORDER, 1989<sup>1</sup> (C.O. 142)**

In exercise of the powers conferred by clause (1) of article 342 of the Constitution of India, the President, after consultation with the Government of the State of Jammu and Kashmir, is pleased to make the following Order, namely:-

1. This Order may be called the Constitution (Jammu and Kashmir) Scheduled Tribes Order, 1989.
2. The tribes or tribal communities, or parts of, or groups within, tribes or tribal communities, specified in the Schedule to this Order shall, for the purposes of the Constitution, be deemed to be Scheduled Tribes in relation to the State of Jammu and Kashmir so far as regards members thereof resident in that State.

### **THE SCHEDULE**

1. Balti
2. Beda
3. Bot, Boto
4. Brokpa, Drokpa, Dard, Shin
5. Changpa
6. Garra
7. Mon
8. Purigpa
9. (Gujjar
10. Bakarwal)<sup>2</sup>
11. (Gaddi
12. Sippi)<sup>3</sup>

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<sup>1</sup> Retrieved from <http://lawmin.nic.in/ld/subord/rule16.htm>. on 03-02-2015

<sup>2</sup> Ins. by the Constitution (Scheduled Tribes) Order (Amendment) Act, 1991 (36 of 1991), s. 2 (a) (w.e.f 19-4-1991).

<sup>3</sup> Ins. by s. 2(b), *ibid.* (w.e.f. 20-8-1991).